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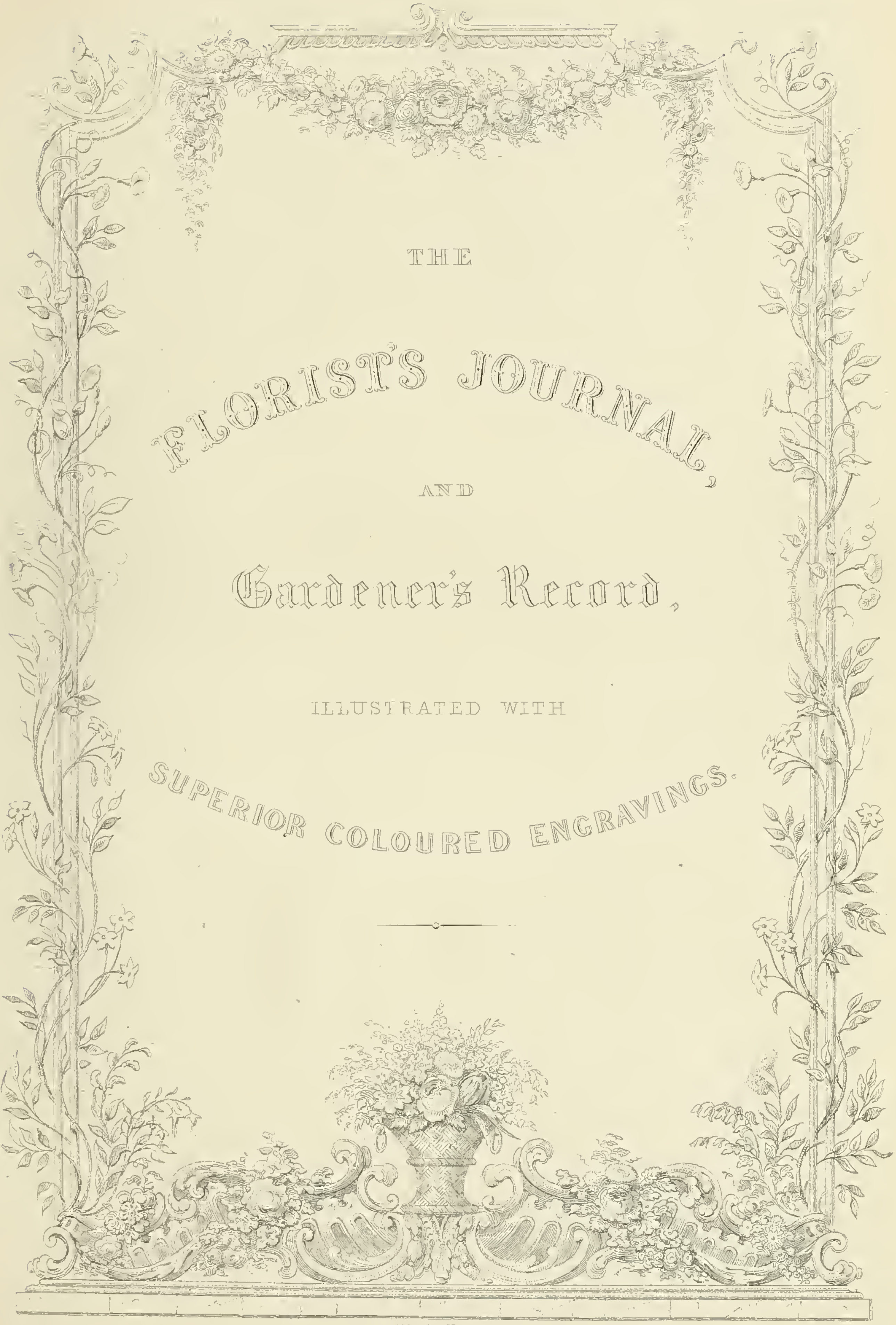

THE

FLORIST'S JOURNAL,

AND

Gardener's Record,

ILLUSTRATED WITH

SUPERIOR COLOURED ENGRAVINGS.

Alfred Adlard, sc.

THE

FLORIST'S JOURNAL

FOR THE YEAR

1844.

[Vol 5]

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PREFACE.

Another year is closing, and another volume of The Florist's Journal is before the public, to receive its measure of praise or condemnation — may it be found "perfect in all its parts!" It is usual on this occasion of an annual address, to speak of *ourselves* and *our* prospects, but for once we indulge a propensity to speak of others — previously assuring our friends, lest they stumble on some misconception, that we are perfectly satisfied with both.

It is, we think, sometimes as useful, and always more gratifying, occasionally to review the difficulties we have overcome, as to narrowly examine those likely to occur; and with this idea, we propose to glance retrospectively and cursorily at the advance that has been made and the improvements effected since May 1840, the period of our commencement.

For some time both before and after that date Horticulture was declining; a degree of apathy pervaded its several interests — though, fortunately, without materially injuring any of them — until, in 1841-2, a reaction occurred, which threw new vigour into every branch of the science;

and since then its progress has been most satisfactory. Theory has been found to be other than mere chimerical romance. The science of chemistry has been cleared of much of the technical obscurity with which it was encumbered, and has thus become familiarised and rendered an useful auxiliary; and, as a necessary consequence, the practice of Horticulture has advanced in a corresponding ratio. To assist which improvements have been made in the operative departments, tending to render the application of correct principles easy and their effects certain.

These advances can only be regarded as the gratifying first-fruits of a general search after knowledge undertaken by the members of the profession; the spirit of inquiry has taken firm possession, and most of the energy requisite to a proper and beneficial consummation is at length aroused. Let it still be pursued, as the only and certain means by which it is possible the gardener can hope to attain the position his character and usefulness entitle him to.

It remains only to show how this has been done, and how it may be continued, to insure the desired result. An advance of this magnitude cannot be thought of as resulting from isolated individual efforts; no — it required the united assistance of many; and it is to the formation of societies for the promotion of Horticultural objects, no matter how they act, whether by encouraging the production of extraordinary subjects in the distribution of prizes at an exhibition, or by the dissemination of knowledge in the pleasing and equalising manner of mutual instruction; it is to the influence of societies of this nature that the science is mainly indebted for the advancement effected, and the eminent position it now occupies. One of the effects of public exhibitions of the productions of Horticulture has been the introduction and continuance of a commendable spirit of emulation, the result of which is evident, in the superiority of the articles submitted at the present day over those of the period we first spoke of; and this superiority must be progressively augmented in proportion to the extension and continuance of the incentive.

Another, and even more important object, has been achieved by this competition — it has removed the film of self-complacency from the vision of many, and imposed on all the necessity of opening their eyes and understandings to the various advances progressing around them; and hence the formation of Gardeners' Instruction Societies, which, if we regard their already ascertained results, and the moral influence exercised on the minds of young members, must be considered as pre-eminently the most important advance of the whole.

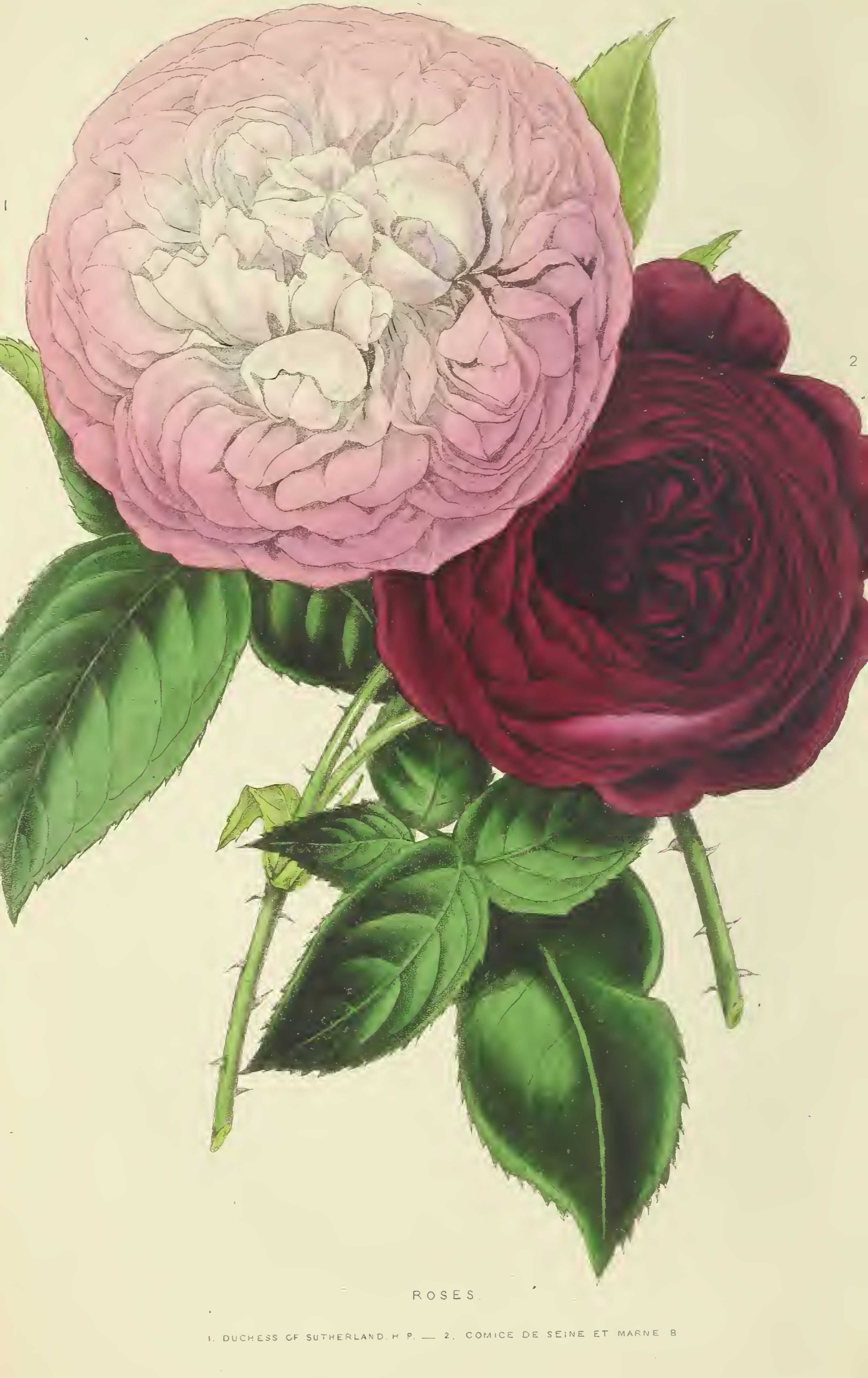
And the Florist, too — he who, as the poet says, has

> "Mark'd with secret pride the wonders of his hand,"

can tell us of the happy influence of friendly competition, and point to instances in his Auriculas, his Tulips, Pelargoniums, Pansies, Dahlias, and in all he grows; in fact, the very pursuit itself must have originated in this feeling, though perhaps evinced in some other form.

Thus has emulation been made conducive to the foundation of a better system of gardening, to the manifest advantage of all interested in it; who, to preserve their present position and secure future prosperity, have only to press onward the impetus thus given, by giving all the aid in their power to societies of either kind already formed, or by the formation of others in every promising locality.

It must, however, be remembered that to render the associations thoroughly effective, publicity should be given to their proceedings, for which ample opportunities are now offered on all sides. The Horticultural Press is the engine by which gardening has been rescued from the darkness of empiricism, and elevated to become a science; and without its invigorating aid would inevitably return to the former condition. It becomes therefore of equal consequence to encourage simultaneously meetings for the promotion of the profession, and the means by which their usefulness is made known. For the very flattering proportion of this encouragement we have experienced, we are grateful; and conclude this address by cordially thanking those correspondents whose contributions grace our pages, and our subscribers generally, for their past favours, trusting to merit and receive a continuance through the future.



ROSES.

1. DUCHESS OF SUTHERLAND. H.P. — 2. COMICE DE SEINE ET MARNE. B.

Eng^d by A. Adlard. for Florists Journal Jan^y 1844

THE

FLORIST'S JOURNAL.

JANUARY, 1844.

ON ROSES.

WITH AN ILLUSTRATION.

CLOSELY associated with the love of roses is the very natural desire to possess them in their greatest beauty; and much of this necessarily depends, not only on the skill and attention with which they may be tended, but also, to an extent seldom appreciated, on the position or situation in which they are grown. The proper station for this, the queen of flowers, in our gardens has not yet met the attention we think it deserves; and it may be, that part of this neglect may be traced to opinions which have been promulgated, tending rather to bring this class of flowers into disfavour than otherwise. It has been held, that the general form of a rose bush is compact and lumpish, which totally unfits them for grouping in a tasteful manner. Granting the form usually assumed to be compact, or even round, it must be borne in mind we do not look upwards when viewing their beauties, as is the case when admiring the verdure of a group of trees, by which *their* outline is drawn so prominently and conspicuous upon the heavens behind them; on the contrary, our attention is directed downwards, and, thus seen, nearly every plant or tree would assume the same form. Indeed, it may be questioned if the compactness of these plants is not an advantage, as it brings them more immediately into one view; and, on the other hand, we believe there is scarce another family of plants, certainly not one so extensive, that will present a greater variety of outline, under the same general line of altitude, than does the Rose: but, even to meet difficulties, should two neighbouring plants indicate a tendency to the same form, they are so ductile, that by pruning or training, the shape of one or both may be completely altered in half a summer. Thus we see no real objection to their arrangement in groups; and in fact, so far does our opinion incline to the contrary, that we believe the Rosary to be the only place in which their loveliness can be estimated to the full.

We therefore proceed to briefly consider some of the circumstances affecting their arrangement in this manner. The best situation for a Rosary, if choice can be made, is on a gentle declivity facing to the south-east: an easy slope is to be preferred, because the plants receive more light, and are seen to greater advantage than when growing on a level surface, and the compartment itself looks larger; and also because the superfluous moisture will pass off quickly in such situations, for, though Roses delight in a rich retentive soil, they receive much injury, in common with all plants, from stagnant aqueous matter in the soil.

In the disposition of the plants, the taste of the designer, aided by local circumstances, must be the chief guide: a few general rules, however, may assist the most refined; thus, for instance, the superiority of an arrangement would be self-evident in which the several families or classes were in juxtaposition, allowing the hybrids or doubtful kinds to approach the nearest to their affinities, so that if a division were occupied with the varieties of China Roses, the next should contain their hybrids, followed by Perpetuals or Bourbons according to the class the hybrids partake of: the arrangement in the beds requires but little explanation, being only to place the more vigorous kinds towards the centre, and to include as great a variety of colours as possible. Standard Roses are fine objects when planted singly, either in the centre of the beds or on the turf, though the number of them should be limited, as too many take from the appearance of the whole, by excluding from view the dwarf kinds in their rear, and by imparting an air of confusion where everything should be as regular and neat as art can make it; a grove of them, however, may be allowed as an appropriate background.

We are entirely opposed to the introduction of what is called "natural scenery" in Rosaries: thickets and jungles of Roses may be read of with pleasure, but they present a very untidy appearance in a garden, and we should therefore endeavour to possess the whole with a classic and chaste regularity, as being more in consonance with the plants themselves, so entirely the result of art, and with the general idea of a collection. This principle excludes the mis-shapen masses of stones, shells, &c. which, dignified with the title of "rockwork," we frequently find occupying the centre beds of Rosaries, than which nothing can be more opposed to a correct taste: in their places we would recommend the erection of a light, elegantly-proportioned building in the form of a temple, which, when covered with Roses, would be in excellent keeping, and need not be a whit more expensive than are these misplaced piles of rockwork.

The boundaries of places set apart for the culture of Roses should be distinctly marked in a manner to be plainly seen; at the same time, to agree with the interior, wearing a light airy appearance, for this purpose, perhaps there is nothing more suitable than the Roses themselves: a very pretty boundary line may be formed by placing short posts ten feet apart, with a chain fastened to the top of each, on which the climbing kinds may be trained in the manner of a festoon; these fences have a beautiful effect, realising the pastoral idea of a "garland of roses." For the edgings of the beds we would also employ roses, the pretty little Miniature or Fairy Roses being remarkably well suited, from their dwarf and very neat habit; they require some protection through the winter, which may be given by pruning close back in the autumn, and covering the remaining part with fern or dry leaves.

A Rosary thus formed and arranged would possess a pleasing variation, while an air of harmony would pervade the whole.

EDITOR.

LIST OF ORCHIDEÆ.

(*Continued from page* 240.)

135. *Epidendrum cuspidatum.* (Derived from prickly-pointed.) Plant bulbous; bulbs nearly one foot long, rather slender; leaves placed at the summit of the bulbs, six inches long; flowering from a short spike rising from the summit of the bulb; the sepals and petals are of a yellowish green, changing with age to a pale yellow; labellum white and fringed. This species requires pot cultivation in a mixture of turfy peat and sphagnum, with a liberal supply of water when in a growing state, provided there be a good drainage, with a temperature of 65° to 70°. — *Native of Dominica.*

136. *Epidendrum aloefolium.* (Derived from aloe-leaved.) This species is of a trailing habit; its leaves are from eighteen inches to two feet long, of a

thick fleshy green, narrowing to an acute point; flowers produced on a solitary stem; sepals and petals three inches long, of a bright green colour; column white; labellum white, 3-lobed, the middle lobe extending one inch beyond the other two, and ending with an acute point. This species is worthy of cultivation, and will either grow on a lump of turf or in a pot with the same compost as the above; in either case it requires hanging up on account of its long drooping leaves; with a temperature of 65°. — *I believe a native of Mexico.*

137. *Epidendrum Harrisoniæ.* Plant with tall bulbous stems, three feet long; leaves rather fleshy, alternate; flowers produced on a drooping raceme from the summit of the stem; the sepals and petals are of a delicate green, with a pure white labellum. This species is not handsome; it requires pot cultivation, in a mixture of turfy peat and sphagnum and a liberal supply of water; a temperature of 65° to 70°. — *Native of Brazil.*

138. *Epidendrum floribundum.* (Derived from its free flowering.) Plant with bulbous stems, from two to three feet long, upright; leaves alternately up them; flowering from the summit in a branching raceme, producing from forty to fifty small flowers; sepals and petals brown, the latter falling back, of a thread-like appearance; column pale green; labellum white, stained at its breast with purple. This species is worth cultivation, and requires growing in a pot with a mixture of sphagnum, rotten wood, and turfy peat, and plenty of water while growing; temperature, 65°. — *Native of Mexico.*

139. *Epidendrum bifidum.* (Derived from being cleft.) This is rather a curious species, but not very handsome, yet worthy of a place; the sepals are bright green, slightly blotched at the extremity with pink; petals bright yellow; column white, with the helmet yellow; labellum flesh-colour, with a slit in it that renders it a peculiar object; it requires the same treatment as the above, with a temperature of 65° to 70°. — *Native of Tortola.*

140. *Epidendrum nocturnum.* Stems upright and leafy, about ten inches long, simple, erect, aud round; leaves sheathing, alternate, oblong, flowering from the summit of the stem; sepals and petals greenish white; labellum white; it smells very sweet during the night. This will do either on a chump of wood or in a pot, with the same treatment as for most others; temperature, 65°. — *Native of Martinico and Jamaica.*

141. *Epidendrum nocturnum var. angustifolium.* This plant may be readily distinguished from any of the others by the narrowness of its leaves, but is the same in regard to its flowers, and will do with the same treatment and temperature as the other. — *Native of the West Indies.*

142. *Epidendrum nocturnum var. latifolium.* This is another variety, with larger and broader leaves; the flowers are also larger, requiring the same treatment as the other. — *Native of the West Indies.*

143. *Epidendrum nocturnum var. pumilum.* This is a very small variety, and well adapted for growing on chumps of wood, provided its roots are covered with moss and it is allowed a liberal supply of water; temperature, 65°. — *Native of Essequibo.*

144. *Epidendrum variegatum.* Plant bulbous; bulbs four to five inches long; rather flat leaves, mostly in pairs, produced from the summit of the bulbs; flower-spike also proceeding from the summit; the sepals and petals are yellowish green, spotted with dark brown; the labellum pale yellow. This species will either do on a chump of wood or in a pot, in a mixture of turfy peat, sphagnum, and rotten wood; in the latter way not so liberally supplied with water as in most cases; it requires a temperature of 65° to 70°. — *Native of Demerara.*

145. *Epidendrum odoratissimum.* This plant is far from being handsome; but the astonishing odour which it yields during the night renders it worthy

of cultivation; it will do with the same treatment as any of the others, and a temperature of 65° to 70. — *Native of Brazil.*

146. *Epidendrum selligerum.* Plant pseudo-bulbous; bulbs rather better than three inches long; leaves mostly in pairs, nearly one foot long, and rather narrow; flower spike rising from the summit of the bulb. This is a fine species, and should be in every collection; and will either do on a chump of wood or in a pot, in a mixture of sphagnum, rotten wood, and turfy peat; if in the former way, it requires a liberal supply of water during the summer months, and a temperature of 65°. — *Native of Guatemala.*

147. *Epidendrum Clowesii.* Plant with bulbous stems two feet long; leaves alternately up them, the raceme rising from the summit of the stem in a drooping position; the flowers are small; sepals and petals are pale green; labellum greenish white. This is rather a scarce species. It requires pot cultivation, with the same treatment as the others, and the same temperature as the last species.—*I believe a native of Guatemala.*

JOHN HENSHALL, K—P—Y.

(*To be continued.*)

NOTES ON A FEW EARLY-FLOWERING PLANTS FOR THE GREENHOUSE.

SIR, — I often reflect what a pity it is that the more early flowering kinds of greenhouse plants are not cultivated to a much greater extent than is too generally observable.

In the months of February, March, and April, every expanded flower arrests more attention, in fact, appears more lovely, than at any other period. Winter is just loosening its icy hold. Nature wears a reviving aspect, and our spirits, becoming exhilarated by a lighter air and the approach of joyous summer, we look around for some lovely object of creation on which to realise, for the moment, our often vague anticipations. It is yet too early to expect much variety in the borders of the flower-garden, and the greenhouse is the only source which will yield the desired pleasure; and here, too frequently, we meet only the chilling aspect of green leaves or bare stems. This, of course, depends on the selection of plants when furnishing the house, and may therefore be easily obviated. I subjoin a brief notice of some that bloom at this desirable season, with some remarks on their management. There are, doubtless, many others equally suitable, but even those enumerated will be sufficient to remove the blank so much to be complained of.

The genus *Epacris*, from containing so many interesting varieties, must be considered indispensable. Some or other of them may be had in bloom from December until June. They delight in fibrous peat, broken rough, and fine white sand. The young plants should be frequently stopped, by pinching off the points of the shoots while growing, to induce them to throw out laterals: these again should be stopped until the plants have attained a size sufficient to warrant their blooming.

The pretty *Cosmelia rubra* occurs next in order. Its habit and manner of flowering closely resemble that of the *Epacris*, though the flowers themselves are larger and more deeply coloured. It succeeds under the same treatment.

Fabiana imbricata, although recently found to be sufficiently hardy to bear exposure to our winters, still merits a place in the greenhouse, on account of its precocity and its lovely heath-like pure white blossoms.

Pultenia stricta, an old and somewhat neglected, yet certainly beautiful, species, when properly managed, is highly desirable: its spikes of bright yellow and red, pea-shaped flowers, copiously produced, render it a most pleasing object. This plant should be pruned closely back as soon as the flowering is over, which will keep it dwarf and handsome.

Chorozema. I need not enlarge on the beauties of this genus; it is universally grown, and therefore needs no commendation. A large pot and frequent stopping will speedily produce fine plants.

Eutaxia myrtifolia is, like the *Pultenæa*, a plant whose beauty depends entirely on the management it receives. During the summer and autumn every new shoot should be stopped as soon as it has attained two, or at most three, joints: thus it may be formed into an extremely neat compact dwarf shrub. It is a most profuse bloomer.

Pimelea. This genus, with its capitate heads of lovely pink, white, and red flowers, may be classed among the best of greenhouse plants. They are generally of easy management, though I have found some difficulty with *P. spectabilis*, when growing on its own roots: it appears to do better and live longer when grafted upon another species.

Diosma capitata is closely allied to the *Pimelea;* the colour of the flowers is a lively lilac.

All the above plants succeed under the same treatment: they delight in sandy peat containing plenty of fibre, and require plenty of air at all times, and should be kept constantly moist, though never saturated, with frequent stopping, to keep them close and dwarf.

Next to these is the *Genista*, with its splendid corymbs of bright yellow blossoms; these require rich turfy loam to grow in, plenty of air and water, and but very little pruning, being naturally close, compact-growing plants.

The *Boronias*, too, are charming plants; though not quite so early to flower as some others, yet in April and May they are fine objects; the prevailing colour in their flowers is a rich rosy red. They should be grown in peat, loam, and sand, and make rapid progress when grown in large pots.

Oxylobium retusum and *obovatum* are two fine plants, affording a pleasing variety among the other plants named, from their more robust habit and larger foliage. The flowers are papilionaceous, of a bright orange and red: fibrous peat suits them best.

Among these we have nearly every colour except blue, and this may be had in *Kennedia monophylla*, a lovely climbing plant, bearing copiously racemes of blue and white pea-shaped flowers. It delights in peat and loam, and should be trained upon a wire trellis. It requires but very little pruning.

Lechenaultia formosa is a delicate low-growing plant, rather difficult in its management, but, when seen in good order, a most lovely object, being densely covered with small bright red flowers. It requires to be potted in fibrous peat with nearly an equal quantity of silver sand; a few rough pebbles mixed in the soil will induce it to root more readily. An abundant supply of air and water should be given it during summer, reducing the quantity of each on the approach of winter.

The above selection, with the assistance of a few *Azaleas*, *Camellias*, and *Rhododendrons*, would render a greenhouse all that could be desired for the first three months of the returning season, when they would be succeeded by the *Pelargoniums* and other summer flowering plants.

P.

Horticultural Essays,

By the Members of the Regent's Park Gardeners' Association.

VEGETABLE PHYSIOLOGY: the Elementary Organs.

By Mr. T. Moore.

The vegetable kingdom cannot be distinguished from the animal kingdom by any absolute character: there is considerable analogy between the members of each, especially as regards their more important functions, and general principles of organisation; but when viewed in detail, we find that in the higher orders of each kingdom there are important and distinct functions specially allotted. Whilst between the more perfectly organised members of each kingdom, the analogy is found to be more perfect, the points of distinction are likewise more apparent; and when we descend to the lower orders of each, it is difficult to discover any character by which the line of distinction is easily recognised. It has been thought by some, that the animal and vegetable kingdoms form separate and connecting links, in what may be termed the universal chain of nature, and by which all created things are brought into endless connection. Such a view is not, however, a correct one; it is much more philosophical to regard the organised kingdoms of nature as meeting at their lowest point, and simultaneously rising side by side, the perfect forms of each being more widely separate, as well as more easily distinguishable from each other.

A plant is a member of the vegetable kingdom; it is imbued with a mysterious vitality, by means of which it is enabled to perform the offices of respiration, assimilation, and secretion. A plant is individually originated by a seed, borne on its parent plant, and is destined in its turn to give rise to a similar progeny; these seeds, or germs, possess the peculiarity of retaining their vitality for a considerable length of time, in a perfectly inert and latent condition, even when detached from their originating source. A plant grows by taking up food from the soil in which it is placed, through the spongioles of the root, and by absorption from the atmosphere through the leaves; this aliment is then assimilated in the laboratory of the vegetable structure, and by a process of deposition of matter, the fabric is increased: this goes on until, in the fulness of time, the plants arrive at maturity, developing a succession of leaves, which are succeeded by the flowers, and ultimately by the seeds. A plant is multiplied by division of its axis, as well as by seed; thus if a portion containing a bud is removed, and placed in favourable circumstances, it will form a new plant of the same nature and properties as its parent.

These are general truths, which it requires no great exertion of the mind to assent to; but how all this is accomplished is a point of which we are ignorant. Science may and has constructed theories, by the help of which much light has been thrown on the subject, and by means of which the progression of a plant through its several stages up to maturity, and thence to decay, may in some degree be explained; but science cannot divest the vital principle of its tabernacle of matter, and show us of what it consists. The mystery, like that of our own existence, is unfathomable, and, to use the words of Sir J. E. Smith, "we can know it only as we know its Omnipotent Author—by its effects. This vital energy is stupendous in every organised body, from our own elaborate frame to the humblest moss or fungus: those different fluids, so fine and transparent, separated from each other by membranes as fine, which compose the eye, all retain their proper situations (though each fluid is perpetually removed and renewed) for sixty, eighty, or one hundred years or more while *life* remains: so do the infinitely small vessels of an almost invisible insect, and the fine and pellucid tubes of a plant, all hold their destined fluids, conveying or changing them according to fixed laws, but never permitting them to run into confusion, so long as the vital principle animates their various forms: but no sooner does death happen, than, without any alteration of structure, or apparent change in their external configuration, all is reversed: the eye loses its form and brightness; its membranes let go their contents, which mix in confusion, and thenceforth yield to the laws of chemistry alone. Just so it happens sooner or later to the other parts of the animal as well as vegetable frame; chemical changes, putrefaction, and destruction immediately follow the total privation of life, the importance of which becomes instantly evident when it is no more."

To take a seed as it separates matured from its parent stock, in some cases, dry and parched in its appearance, in others covered with a coating almost as hard as the solid rock, or as frequently so minute as to be scarcely discernible, and to know that such a fragment contains within it all the elements of life,—to take any other body resembling it in appearance and in substance, yet spun out by the hand of man,—to know that one of these when placed in the soil would spring up and grow, and produce leaves, flowers, and numerous bodies like itself,—and to know, as assuredly, that the other, to all appearance its perfect similitude, if placed in a similar situation, would remain perfectly inert and unmoved, until decay had destroyed its texture and reduced it to dust,—is a source of reflection, a close application to which would overwhelm the strongest intellect, and place an impenetrable cloud before the brightest vision: the limited and feeble comprehension of humanity would be unable to explain how an atom, such as we have been speaking of, can produce, through innumerable ages, a succession of beings transmitting each to the other, not only material resemblance, but also the inexplicable and mysterious property—vitality.

In the limits to which I am necessarily confined, it would be impossible to enter very minutely upon the whole bearing of the subject, even had I the ability to do so: all that I can attempt to do, will be to give you a brief outline of what is generally acknowledged on the subject before us, and to express my own opinion on those points which seem to be debatable.

The materials of which plants are composed, or, in other words, the *elementary organs* of plants, consist of substances called *tissue*, the chemical bases of which have been found to be oxygen, hydrogen, and carbon, to which nitrogen is occasionally added, and these are found to be combined in variable proportions: vegetable tissue exists in three forms, which are termed *cellular tissue*, *vascular tissue*, and *woody tissue*.

CELLULAR TISSUE is the only kind which exists in all plants. It consists of little vesicles, or cells, of colourless transparent matter, contained within a delicate membrane, which, by cohesion, forms the sides of the cells; these assume a variety of forms in consequence of being susceptible of pressure in any direction. *Membranous cellular tissue*, in its normal form, has these vesicles spheroidal; but, in consequence of the pressure of the adjoining vesicles, they are frequently met with in other shapes: thus we have the oblong, and the lobed, as in many leaves; the square, as in the cuticle of some plants, and frequently in the pith; the prismatical, as in the liber, and in the vicinity of vessels; the cylindrical, as in the genus *Chara*, where it has been discovered so large, that a single bladder has been found to measure four inches in length, and one third of a line in diameter; the fusiform, as frequently found in wood; the muriform, in which the prismatical bladders, viewed laterally, are so arranged as to resemble the bricks in a wall; the compressed, as in the cuticle of all plants, which, although composed of cells, assumes, in consequence of compression, the form of a simple membrane; the sinuous, as in the cuticle, and frequently beneath it. When the edges of these vesicles fit together by plane surfaces, it is called *parenchyma;* when they are elongated, and overlap each other at the extremities, it is called *prosenchyma. Fibrous cellular tissue*, is that in which the sides of the vesicles are either composed of vegetable fibre and membrane in conjunction, or of fibre only. This kind occurs in the leaves of *Sphagnum*, the pith of *Rubus odoratus*, the parenchyma of *Oncidium altissimum*, the coating of many seeds, and the aërial roots of orchidaceous plants; it also constitutes the lining of the valves of almost all anthers. It differs from that previously noticed, in being composed either wholly or in part of vegetable fibre, which latter may be compared to hair of inconceivable fineness, whereas membrane is an extremely thin substance, which does not cohere more strongly in one direction than another. *Vasiform cellular tissue*, consists of tubes or cylindrical cells, whose sides are marked with numerous dots, arranged more or less in a spiral manner. These tubes are internally divided by transverse partitions, formed by the uniting of the ends of the individual cells; they may be readily observed by the naked eye in a transverse section of the cane, the bamboo, the vine, and also in monocotyledonous plants generally; the openings which are seen on examining the sections being the mouths of the tubes, or what would in vulgar terms be called their "porosity."

Vascular Tissue consists of simple membranous tapering tubes, and exists in two principal forms, viz. as *spiral vessels* and as *ducts*. *Spiral vessels*, or *tracheæ*, are membranous tubes with conical terminations, which are internally occupied by a spirally twisted fibre, capable of unrolling with elasticity, and presenting to the eye an appearance resembling a twisted wire. It is not clearly ascertained whether the fibre composing these spirals is in itself hollow or solid, both opinions being entertained by men of science. It would seem most natural to regard it as a solid body, were it not that Hedwig has discovered that coloured fluids, when rising in these vessels, follow the same direction as the spiral; this may, however, be an illusion, from the colouring matter rising in the channels formed by the approximation of the cylindrical fibres, and not actually in the fibres themselves. Their extremities are, without doubt, of a conical form, and in this way we may suppose them to elongate during the increasing developement of the part in which they occur. They are formed, sometimes by the convolution of a single fibre, and in other cases by the union of several fibres turning in the same direction, and forming a right-handed screw; the former, which is its most common character, is called a simple spiral; the latter, a compound one. They vary considerably in size, being met with from $\frac{1}{300}$ to $\frac{1}{3000}$ part of an inch in diameter; in the floral parts they are exceedingly minute. They are situated in the medullary sheath, that is, in that part of the axis which surrounds the pith; they are also found in every part of the ascending axis, the tissue of which emanates from thence, such as the veins of leaves, and all the modifications of leaves. They are not generally found in any part which is formed in a downward direction, and are therefore usually absent from the wood, the bark, and the roots: as exceptions to this general rule may be mentioned *Nepenthes*, where they abound in the bark and pith, and some few seeds, of which they form part of the testa, or covering. They are, for the most part, altogether absent in flowerless plants, and hence is founded one of the grand divisions of plants into Vasculares and Cellulares, the only exceptions being in the case of Ferns and Lycopodiaceæ, which are the connecting links between phanerogamic and cryptogamic plants. It has been supposed by some botanists, that the spiral vessels terminate in the orifices of the cuticle called *stomata;* but this supposition is without any solid foundation. *Ducts* are also membranous tubes, with conical or rounded extremities, and differ from spiral vessels principally in their incapability of being unrolled without breaking: owing to this close analogy, they are by some persons still confounded with spiral vessels; but it seems to be desirable to view them as distinct organs, because they occupy a station in which true spirals are rarely found, and we may, therefore, without injustice, infer, that their office and functions are somewhat different. Their variations of form are designated, the closed, the annular, the reticulated, the scalariform, &c.

WOODY TISSUE is also composed of slender, transparent, and membranous tubes, tapering to each end, laying in bundles, and having no direct communication with each other except by invisible pores. It is nearly allied to cellular tissue, being by some botanists considered as a mere elongated form thereof; but a sufficient difference may be discovered in its attenuated character, and also its tenacity. It is this latter character which renders it suitable to be manufactured into linen, the strength of which, as compared with that of cotton fabric, which latter is mere cellular tissue, consists solely in the tenacious character of woody tissue. There are three distinct kinds of woody tissue, of which the finest and most common, as well as most genuine, is *destitute of granules* adhering to the sides of the tubes; another form of woody tissue *has these appendages*, and approaches near the character of vasiform tissue; whilst a third kind, termed the *glandular*, is almost exclusively confined to the stems of *Coniferæ*. This latter differs from *granular* woody tissue, in the markings of the tubes being vesicular, and usually transparent, with a dark centre, whereas the supposed pores of granular tissue have a solid appearance, and are perfectly opaque. Woody tissue constitutes the greater proportion of the ligneous part of all plants; it is common to the bark, and forms a considerable portion of the veins of leaves, to which it gives firmness and tenacity.

Besides these elementary parts, there exists also in plants certain organs, which are composed of similar forms of tissue: these are termed *intercellular passages*, *receptacles of secretion*, *air-cells*, and *raphides*.

INTERCELLULAR PASSAGES are the spaces formed by the imperfect adhesion of the vesicles of cellular tissue. They vary in form according to the pressure of the cells; thus, if this be very regular, the spaces will be very small or altogether obliterated, whilst, on the other hand, if the pressure is strongest in any particular direction, the spaces will become horizontal, vertical, or oblique, according to the direction of the angles of the cells. Their size also varies considerably, for in plants of a dry or rigid character they are frequently very small, whilst in those of a more succulent nature they are so large as to present the appearance of cells; in aquatic plants they are generally very large in the horizontal partitions, which separate the air-cells, and have been supposed to act as passages for the ready access of air from one to another.

RECEPTACLES OF SECRETION are the intercellular passages in a state of distension by the accumulation of proper sap, which, when unusually increased, ruptures the coats of the adjoining tissue, and by this means the cavities are formed. In some plants these are tubular; in *Coniferæ* they are very irregular in figure, and even in position, chiefly forming hollow cylindrical spaces in the bark. Those contained in the rind of the orange and lemon are oblong and spherical; from their situation they are easily examined, and give an accurate idea of the organ.

AIR-CELLS are another kind of intercellular passages, similar to the last, but, instead of being filled with the juices of the plant, these contain only air. This is provided for by their construction: in the former (that is the receptacles), the orifices of the cells are all open, and thus the juices drain readily from one to the other, whilst in the latter they are closed up, except in the partitions which divide them from each other, and thus the discharge of fluid into them is prevented. They cannot be regarded as mere accidental distensions of tissue, by reason of the uniformity and beauty of their construction in the individual species in which they are found. In instances where their presence seems to be indispensable to the life of the plant, they are internally uniform and smooth, whilst in others, where they do not appear to be essential, as grasses, umbelliferous plants, and some others, they are of irregular surface and figure, owing, probably, to the rapid growth of the stem, by means of which the tissue is rent asunder.

Raphides are certain needle-shaped transparent bodies, existing among the tissue ; they were first discovered in the milky juice of *Euphorbia*, and subsequently in other plants. If a common Hyacinth is wounded, a considerable discharge of fluid takes place, and in this fluid myriads of slender raphides are found floating. In some plants, instead of being of a circular form, they exist as minute conglomerated crystals.

The general properties of the elementary organs of plants are, *elasticity*, *extensibility*, *contractility*, and *permeability*. The first gives to plants the power of bending to the breeze, and of vibrating without rupture ; the second enables them to develope with great rapidity whenever such is requisite ; the third enables any parts which may have been overstrained to recover their natural position when the disturbing cause is removed, and also causes the mouths of wounded vessels to close, and thereby prevent the loss of their contents ; the last secures the free communication of the fluid to every part of the vegetable structure which has not become indurated by earthy depositions.

The Cellular Tissue is the most important constituent of plants, as we may readily infer from its being the most abundantly and uniformly present, and also by its being the principal constituent of those compound organs, to which the preservation of the species is specially allotted. It may be regarded as the flesh of vegetable bodies, the substance which surrounds and keeps all the ramifications of the vascular system in their proper place : it is also the first which is generated in the case of wounds, or the developement of new parts ; thus, the granulations at the base of a cutting or between the edges of two rings of the bark are cellular tissue. It transmits fluids in all directions, notwithstanding that the sides of the cells possess no visible pores ; for in many plants no other tissue exists, and yet a circulation of sap goes on, and life is maintained. The medullary rays which convey the elaborated fluid from the bark to the centre of the stem, and the parenchyma in which the sap is diffused on entering the leaves, are both composed of it: nearly all the bark, in which the downward current of the sap takes place, is also cellular; and in endogenous plants, where no true bark exists, there is no other course for the descending sap than the cellular substance in which the vascular system is imbedded; it is therefore permeable to fluids, though it does not possess visible pores. It is the substance from which the leaf-buds are generated, for these organs always originate from the medullary system, of which it is the entire component. Fertilisation appears to take place exclusively through its agency, for the coats of the anther, the tissue of the stigma, the ovules with their sacs, and the pollen itself, are all cellular, the vivifying particles of the latter being composed of the same kind of matter in a more minutely divided state. It is, moreover, the only tissue in which saccharine and amylaceous secretions are formed. When collected into hollow cylinders, as vasiform tissue, it serves for the more rapid transmission of fluids in the direction of the stems; and the size of these is usually in proportion to the distance to which it has to be conveyed.

The nature of the functions of the Vascular System has been the source of much difference of opinion. *Spiral vessels* have been supposed to be destined for the transmission of air, and it seems almost difficult to believe that a vegetable anatomist can doubt the fact; nevertheless Dutrochet and others assert that they serve for the transmission of fluids. Bischoff, who has instituted many ingenious and delicate experiments, with a view to the determination of this point, has arrived at the conclusion, "that plants, like all other living bodies, require for the support of their vital functions a free communication with air, and that it is oxygen most especially which, when absorbed from the soil by the roots, renders the crude fluid fit for the support and nourishment of a plant, just as blood is rendered fit for that of animals; but for this purpose, it is not sufficient that the external surface should be surrounded by the atmosphere; aëriferous channels are provided in the form of spiral vessels, placed internally, and which convey air containing an unusual proportion of oxygen, obtained through the root from the earth and water by its own vital force." "With such evidence," says Dr. Lindley, "of the aëriferous functions of the spiral vessels, it is difficult to contend; and, indeed, it seems probable that the question, as far as proper spiral vessels are concerned, is settled. Whether or not *ducts* have a different function is uncertain; it is, however, probable, from the extreme thinness of their sides, that they are really filled with fluid when full grown, whatever may have been the case when they were first generated." The *air-cells* in such plants, as they appear to form part of the vital system, as in water plants, are regular cavities of cellular matter, intended to enable the plants to float in the water: in other cases, as in *Umbelliferæ*, *Gramineæ*, &c., where they do not appear to be essential to vitality, they are mere ragged distensions of the tissue, caused by the growth of one part more rapidly than another.

Woody Tissue appears to be applied to the conveyance of fluids, both upwards and downwards, from one end of the body to the other, until it becomes choked up by the deposit of earthy matter, and the natural secretions of the plant. The late Mr. Knight was clearly of this opinion, but Dutrochet regards them merely as downward channels. The power possessed by cuttings of forming roots, and establishing themselves, seems to afford strong evidence in support of Mr. Knight's opinion. This tissue gives firmness and elasticity to every part of the plant in which it is found; its surprising tenacity, and the admirable manner in which it surrounds and protects the vascular system, which in itself has no stability, are strong proofs of these properties. It is also the tissue whence the roots originate; for whilst leaf-buds, and all their modifications and appendages, are always generated in and proceed from the cellular tissue, the formation of roots always results from an elongation of the woody tissue: this may readily be seen by tracing a young root to its origin.

(*To be continued.*)

LIST OF NEW PLANTS.

Myrtaceæ.—*Monadelphia Polyandria.*

Barringtonia speciosa. Cultivators will be pleased to find that this noble plant, which is chiefly known in our stoves for its very handsome foliage, and for the alleged difficulty of growing it well, has produced its remarkable inflorescence in the stove of Colonel Baker, at Salisbury. Mr. Dodds, gardener to Colonel B., says—"It is a stately tree, which grows plentifully towards the coast of many of the islands in the Southern or Pacific Ocean, as well as in various parts of India, China, and Indian Islands. The bark is ash-coloured; the branches are numerous and spreading; the leaves are often more than a foot in length, of a strong and firm texture, with a lucid surface, and of a beautiful bright green. The flowers are numerous, large, and white, with a vast number of stamens of a deep sanguineous purple; they are produced from the upper parts of the branches, and blow chiefly in the evening, falling off the next morning, and are followed in succession by others. It is a plant of easy growth, likes plenty of moist heat, abundance of water in the growing season, and a little bottom heat. The plant we have now bloomed was four years old last March. It was topped a year ago last March, and kept without a drop of water from November till the middle of March: it was then started into growth. About the beginning of May it had made shoots a foot or more in length; when I turned it out of the pot, shook nearly all the soil away, and cut back the roots; then potted it into a 12-inch pot, in a mixture of charcoal, loam, sand, and peat; and on the 4th of the following month (June) it threw up a fine spike of flowers. It is highly fragrant."—*Pax. Mag. Bot.*

LEGUMINOSÆ.—*Decandria Monogynia.*

Oxylobium obovatum. A very pretty species, with dense heads of bright orange and red flowers. It was introduced from New Holland about two years ago, by Mr. Low, of the Clapton Nursery. The species seems to be almost as good as *O. retusum*, and much superior to *O. capitatum.*—*Pax. Mag. Bot.*

CACTACEÆ.—*Icosandria Monogynia.*

Epiphyllum Russellianum. With somewhat of the habit of *E. truncatum*, this species is perfectly distinct, both in the appearance of the leaves or foliaceous branches and also in the colour of the flowers; the former are more decidedly chain-like, having the parts between the joints more regular and less flattened. The flowers differ in having the violaceous tint not *upon* the crimsony scarlet, as in the other species, but really *mixed* with the crimson in the texture of the flower, so as to produce one uniform colour. Unlike *E. truncatum*, it blossoms at various seasons under the same treatment, and is commonly seen in flower from October till May. It was found by Mr. Gardner on the Organ Mountains of Brazil, and named after the late Duke of Bedford.—*Pax. Mag. Bot.*

SCROPHULARIACEÆ.—*Diandria Monogynia.*

Veronica speciosa. With much of the aspect of *Lisianthus Russellianus*, this fine Speedwell constitutes a robust-growing shrub, decidedly evergreen, with an abundance of neat leaves, and an extraordinary number, as well as succession, of densely-clothed flower-spikes, which are about three inches in length, and bear deep-blue blossoms, that fade away to white before they fall. It is a particularly clean, healthy, and compact object, not rising, apparently, above a foot or a foot and a half in height. Mr. Knight, Nurseryman, of the King's Road, Chelsea, received it from Mr. Egerly, who brought it from New Zealand in 1841. The flowering plant has been kept in a very cool part of the stove, and any kind of pruning has been carefully avoided. It is potted in a light, open compost full of fibre, and a moderately large pot. Other younger plants are looking perfectly healthy in a cold greenhouse.—*Pax. Mag. Bot.*

RUTACEÆ.—*Polyandria Monogynia.*

Diplolæna Dampieri. A singular rutaceous plant, with flowers collected into a capitulum, like the *Compositæ*, but which, when examined, exhibit a very different structure. These flowers are fully produced in the greenhouse in the month of May, and have a very pretty appearance among the rather gloomy foliage: the prevailing colours are red and yellow. It is a native of Western Australia.—*Bot. Mag.*

PLUMBAGINEÆ. — *Pentandria Pentagynia.*

Statice rhytidophylla. This, it appears, is the correct appellation of the plant so well known in gardens as *Statice Dicksoniana.* — *Bot. Mag.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Cirrhopetalum auratum. Among the singular species of this genus the present is one of the most interesting. — It hangs down from the branch of a tree or a piece of charred wood, which it soon overruns with its delicate green roots and egg-shaped furrowed pseudo-bulbs. The leaves are very thick, deep green above, and convex; stained with purple beneath. The flower-stem is as slender as a small thread, and too weak to bear the umbels of flowers, which therefore hang down gracefully and are balanced in the air. The umbels, as in many others of this genus, are so arranged that the flowers are all on one plane, and, diverging equally from the centre, form a circle whose interior is occupied by the lower part of the flowers, and whose circumference is formed by the long, flat, strap-shaped, lateral sepals, which look like so many parti-coloured ribbons collected into a balloon. — The upper sepal and two petals are fringed with golden hairs, and taper into a fine point; the lateral sepals are quite destitute of hairiness, and only faintly stained with purple. It differs from *C. picturatum* in its parti-coloured, not purple flowers, in its petals being far less taper-pointed, and not villous, and in the lip not having a central ridge, which is conspicuous in *C. picturatum.* A native of Manilla, whence it was received by Messrs. Loddiges. Like many species of *Pleurothallis, Stelis,* &c., this requires a humid atmosphere in winter as well as in summer; but it should always be remembered, that the more light and heat, the more water is required. — *Bot. Reg.*

DILLENIACEÆ. — *Polyandria Trigynia.*

Hibbertia perfoliata. This is really a beautiful Swan River shrub, particularly well adapted to pot culture on account of the neatness of its appearance at all seasons. According to Baron Hugel, it has a tendency to climb, but that has not been observed in our gardens. When it first flowered, it was of one uniform glaucous hue, almost as much so as the fruit of the plum when ripe and covered with bloom; but that appearance has gone off, and the foliage is now of a deep rich glossy green, while the beautiful yellow flowers are as large and showy as in the old *H. volubilis;* they are quite free from the offensive smell of that species. In the garden of the Horticultural Society it proves to be a greenhouse shrub requiring the same treatment as many other New Holland plants. — *Bot. Reg.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Oncidium bicolor. This charming species of Oncidium, one of the rarest of its genus, was obtained by Messrs. Loddiges from the Spanish Main. It flowered with them in September, 1842. Among other peculiarities of the species may be mentioned its very thin pseudo-bulbs, and 3-lobed crest of the labellum, the front lobe of which projects forward, while the laterals are at right angles to it and slightly toothed. It has, moreover, a very large lip, which, although deep clear yellow on the upper side, is almost white beneath. Its nearest affinity is with *O. bifolium.* — *Bot. Reg.*

CALENDAR FOR JANUARY.

STOVE. At this season of the year, when all is dark and dreary without, our once verdant trees dismantled and our parterres deserted, the inmates of our stoves and greenhouses afford us a cheering onward impulse, and seem as a link to connect the floral seasons of the past and the future. There is, however, but little scope for aught else than admiration of the beauties which, heedless of the dreariness around them, still blossom on: the operations on which this pleasing sensation is dependent are past, the flowers we now admire are the record of them, and faithful witnesses they are, attesting the degree both of our tact and our talent in the arts of cultivation. There is not perhaps a single feature in the cultivation of plants during the winter, in which the amateur is more likely to err, and by reason of which a greater amount of injury is occasioned, than in the application of water, either in its fluid or vaporous state: if applied directly to the soil in great quantities, the roots, being at this season inactive, are certain to sustain more or less of injury; and if it is applied in excess to the atmosphere, in the form of vapour, the exhalations from the leaves of the plants will thereby be checked, in consequence of the density of the medium which surrounds them; in either case the plants will materially suffer. It is difficult to give precise rules for the performance of operations such as this: as a general principle, however, with reference to plants in pots, no more ought to be given at the root than is sufficient to sustain the vital energy of the plant. And barely any more should be supplied to the atmosphere, than arises from the evaporation troughs on the hot-water pipes: none should be applied by the syringe. A succession of forced flowers should be maintained by introducing a few about once in a fortnight. Roses, Lilacs, Rhododendrons, &c., may be added now to the bulbs and herbaceous plants of last month.

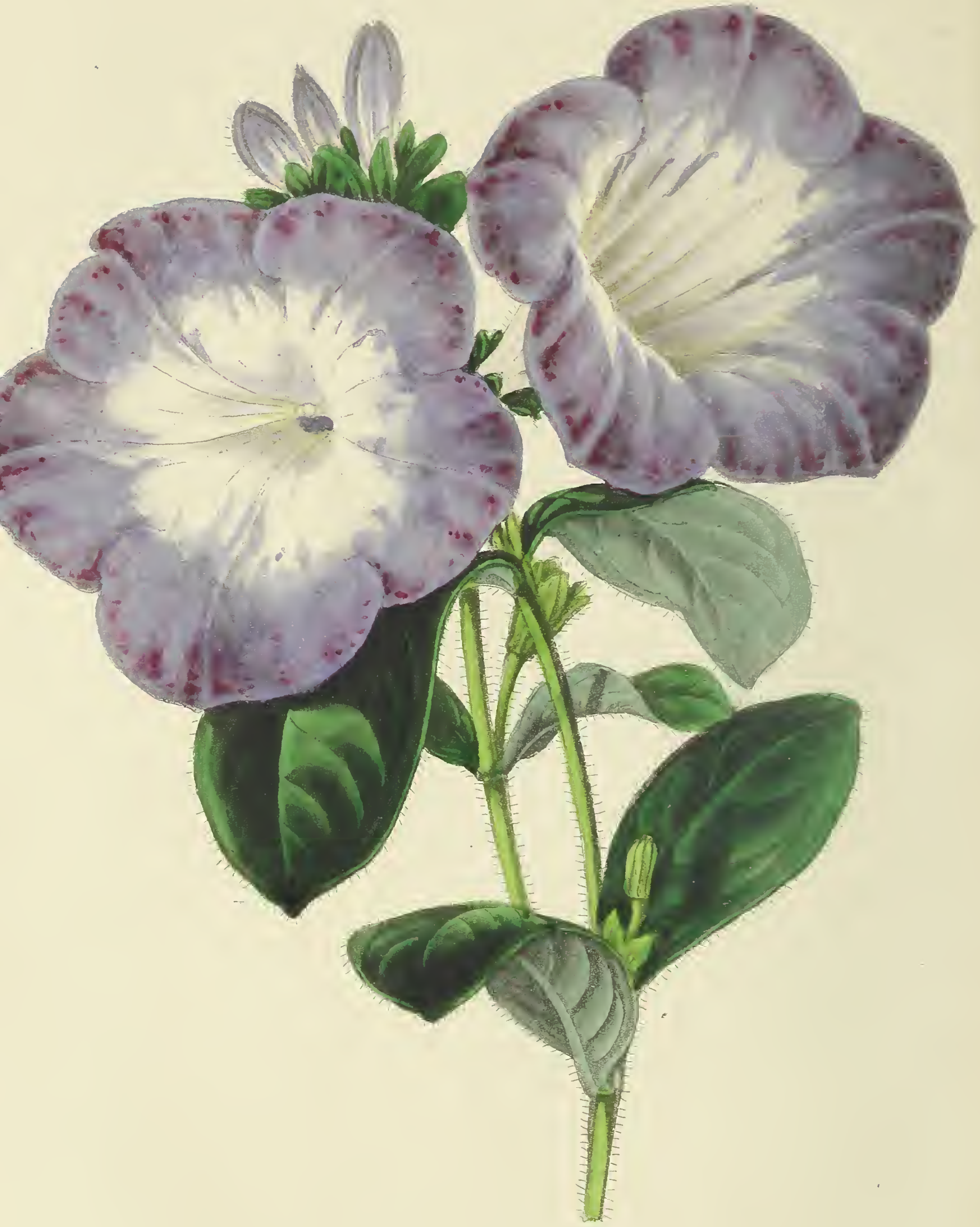
The temperature in all plant structures ought to be comparatively low, in this department; from 60° to 65° by day, and from 55° to 60° at night, will still be sufficient.

Greenhouse. The foregoing rules respecting moisture apply here also, except that in the generality of cases, it is not advisable to make so free use of evaporating troughs as in the stove, for, in consequence of the lower degree of temperature which is maintained, the atmosphere cannot hold so great an amount of aqueous matter, in a state inappreciable to the outward feelings.

The management in both houses may be summed up thus:— avoid the application of stimulants; maintain, if possible, all previous growth, but seek not to add thereto till the proper season arrives. An average temperature of 45° will be sufficiently elevated.

The FLOWER-GARDEN will now be desolate, unless some means have been devised to supply the place of the summer flowers: perhaps there is no better plan than to keep a supply of *small* evergreens in pots, which might be done with but little trouble, and these may be plunged into the beds when the flowers are removed. They ought in all cases to be kept together, in masses of the same kind of plant, as being far preferable, in point of taste, to an indiscriminate mixture. No plant is better adapted for this purpose than the dwarf British Furze (Ulex nana), which flowers so universally throughout the winter, that love is said to be out of date when furze is out of bloom. Other plants adapted for the same purpose are, Aucuba japonica, Buxus sempervirens suffruticosa (*dwarf Tree Box*); Ilex Aquifolium (*Holly*), green and variegated varieties; Phillyrea, several species; Erica, the hardy species; Berberis Aquifolium; Cistus, several species; Ledum or Leiophyllum thymifolium and L. palustre; Vinca major, (*Perriwinkle*); Prinos glaber (*Winter berry*); Daphne pontica, D. collina, D. Gnidium, and D. cneorum; Garrya eliptica; Pinus pumilio and its varieties; P. Cembra pygmæa; Cupressus and Juniperus, several species; Ruscus aculeatus (*Butcher's broom*); Araucaria imbricata; Yucca filamentosa, and Y. recurvifolia. A selection made from plants similar to these, and arranged so as to combine a pleasing variation with harmony of effect, would supply all that could be desired.

Plants in frames, intended for bedding out in summer, require especial attention, to guard against both damp and frost: such plants should receive the full influence of the air at all times when it can be admitted to them without risk; and they should be kept dry as possible, never watering them except when it becomes absolutely necessary, nor taking off the sashes in damp weather: coverings sufficient to exclude frost should be duly applied, and these should be elevated a few inches from the glass, so as to enclose a space beneath them, which will serve as a powerful non-conductor. In the event of very severe weather tulip beds, and also those of ranunculus and hyacinths, will require covering. Auriculas, polyanthus, picotees, &c., the same as last and previous month.



PETUNIA PUNCTATA.

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THE

FLORIST'S JOURNAL.

February, 1844.

THE PETUNIA.

WITH AN ENGRAVING OF P. PUNCTATA.

The Petunia has been, from the first year of its introduction to British collections, a general favourite; its easy management, robust character, and copious blooming, have ever rendered it desirable for all the purposes of embellishing either conservatory, greenhouse, or flower garden; it is, however, needless to insist on claims which are everywhere conceded, we therefore pass on to a slight sketch of the history of the genus, and thence to its cultivation.

The name Petunia is derived from the Peruvian word *Petun*, a name for tobacco, because of the affinity of this genus with *Nicotiana* (see Vol. IV. p. 217.) The first species we have recollection of is *P. acuminata*, which came from Chili about 1826, after it in 1823, *P. nyctaginiflora*, or as it was then called *Nicotiana* nyctaginiflora, from South America. This curious little species is still very generally grown, though rather more difficult to preserve in good health than any other of the genus; this was followed by *P. violacea* in 1830, from Buenos Ayres; and so uncertain were the distinguishing characters of the plant, that it was called, beside the name we employ, *P. phœnicea*, and it was also proposed to unite it with the new genus *Nierembergia*, while by others it was referred to *Salpiglossis* as *S. integrifolia*; it is now, however, universally known as a Petunia. From the introduction of this species may be dated the origin of the many hundreds of seedling varieties which have annually appeared, and as regularly been eclipsed by some more recent production.

Another species was added in 1832, from Buenos Ayres—*P. intermedia*, known also as *Nierembergia intermedia* and *Salpiglossis linearis.* Cultivators aware of the advantages likely to arise from judicious fertilizing, at once directed their attention to the raising of seedlings, and many pleasing varieties resulted. The prettiest and most varied collection we ever saw was grown by Mr. Weeks, gardener to —— Sheepshanks, Esq. late of Blackheath Park, among these were every shade of colouring, from pure white and spotted to the richest crimson and violet. The last variety of any note that has reached the public is Magna rosea, an immense flower of a rosy crimson colour; but even this, fine as it is, must yield to our present illustration, Punctata. Nothing we have ever seen possesses half its beauty, with an outline the most perfect is combined a great thickness in the petal, which imparts to the flower an appearance of velvet; the colours, too, and their disposal are perfectly distinct from any previous variety. The rich rose blotches on a field of clear bright blue render it quite unique. It was obtained from seed last season by Mr. Miller, Nurseryman of Ramsgate, who informs us he has been fortunate in raising also some other desirable varieties of Petunias, besides Fuchsias, Verbenas, &c., which we shall probably have occasion to notice in a future Number.

The cultivation of the genus is so simple and requires so little of what may be called "tact," as to place them within the command of the smallest grower. If healthy plants are purchased in the spring, they may be increased to any extent through the summer months, by inserting cuttings under a small hand-glass upon any shaded border; and but few plants may be kept with greater ease in the sitting-room window. But it is to their culture from seed we intend to direct our remarks; and for this purpose a good-sized, well ventillated melon-pit or greenhouse is necessary; it may be done in either, though we think the pit preferable, because the plants, naturally impatient of heat, may here have a larger proportion and be in more immediate contact with the fresh air, and for the greater facility of covering, uncovering, shading, watering, &c. A difficulty is generally experienced in procuring sound, well ripened seed; this is attributable to our variable and often dull wet summer. The plants being natives of the clear bright sunny regions of South America, have not the natural and necessary space of dry weather either to fertilize, or when that happens to mature their seeds; hence the necessity of a pit or some such protection in the blooming season. It is well known to all acquainted with the laws which govern the vegetable productions of the earth, that a certain amount and continuance of dryness in the surrounding atmosphere are essentially requisite to enable the plant to fully develope its generative powers; and the want of these is the frequent cause of failure in the production of good seed and so of crops. This is perhaps beyond removal in relation to things of extent requiring the open air; but with subjects like the present, which are portable at pleasure, we see no difficulty in remedying this defect of our climate.

We will suppose a collection to be formed of strong healthy plants, and containing some of the best sorts. About the beginning of April they should be placed in large pots, with any light rich soil, such as a mixture of leaf-mould loam, and decayed hotbed manure; there should be sufficient of this earth in the pots to sustain the plants throughout the following summer, without being again shifted. Petunias frequently commence blooming about the beginning of May; the first flowers may be taken advantage of to decorate the greenhouse or other place, as it is not these that are to be depended on for the production of seed, but such as appear about the commencement of the settled weather of June or July; at this time the plants should be taken to the pits, the better to protect the flowers from occasional showers and other moisture; in this situation they require an abundant supply of water and air, with free exposure to bright sun-shine so long as they will bear it, — which they will do to any extent (if regularly watered) until the roots have entirely filled the pots. Should it happen that cloudy weather prevails, advantage of every gleam of sunshine should be taken to assist the plants by artificial fertilizing; but in anything like the average summer weather this will not be required, as the plants themselves, assisted by insects, will perform the operation; after the seed is set, it will only be necessary to keep the head of the plant dry, that moisture may not lodge in the capsule, and so destroy it; — each pod of seed should be gathered as it becomes ripe, and the whole kept in the usual way until the season for sowing, which we recommend to be the early part of March, a slight hotbed, such as is usually employed at this part of the year for raising tender annuals, will be necessary on which to sow the seed; and as soon as they are large enough to handle, let them be potted singly into small pots, continuing them in the frame until grown sufficiently to bear removal to the greenhouse, here with the usual attention to repotting, &c., they will produce flowers almost as early as mature plants, and according as any improvement or degeneration is observable they should be preserved or rejected,—the best to be increased by cuttings, which root readily at any time in sandy mould on a gentle bottom heat,—and the remaining portion may be turned into the beds of the flower garden. We have generally observed the white and pale-coloured varieties exhibit a much less tendency to produce other varieties than those of a deeper shade.

Horticultural Essays,

By the Members of the Regent's Park Gardeners' Association.

(*Continued from page* 16.)

VEGETABLE PHYSIOLOGY: the Compound Organs.

By Mr. T. Moore.

The parts we have been previously considering are called *elementary organs;* but there are others to which we must now direct our attention, and these are designated the *compound organs* of plants. It will be desirable, in the first place, to notice some of these, which are general to almost all parts of plants; they are, the *cuticle*, and its appendages:

The cuticle itself is a thin and extremely delicate membrane, composed of parenchyma, the vesicles of which are compressed into a firm state of cohesion. It is not, therefore, as some suppose, a peculiar membrane, but a form of cellular tissue, which covers all those parts of plants which are exposed to the air, except the stigma, and the spongioles of the roots; and is as constantly absent from any parts of plants which are habitually under water. It appears to the naked eye like a transparent homogeneous skin; but it is by the aid of a microscope that it is seen to be cellular tissue in a compressed form, with lines traversing it in various directions, and which, by anastomosing, give to it a reticulated appearance: the most usual form of this reticulation is hexagonal; but it is sometimes marked by sinuous lines, having no determinate figure.

On the exact nature of the *cuticle* botanists are not agreed: some incline to the opinion that it is a peculiar membrane traversed by veins, and the irregularity of the sinuous lines, by which it is sometimes marked, are considered as strongly supporting this view; such irregular figures being considered to be at variance with the notion of its being an adhesion of vesicles of cellular tissue: others, regarding it to be a form of cellular tissue, contend that the irregularity of the reticulations, or supposed lymphatic vessels, is nothing more than is observed in a section of any portion of cellular tissue. In answer to the argument, that on the removal of the cuticle the subjacent tissue dies, instead of becoming cuticle, it is maintained that this is no reason why itself should not have originally been composed of a cellular tissue; and, as regards the non-formation of cuticle, by the change of the tissue immediately beneath the original covering, it is an axiom in physiology, that a part once fully formed is incapable of any subsequent change whilst in a living state; thus, a zone of wood never contracts or expands after it is deposited, though new matter may be added to any part. The arrangement of tissue, when it once becomes fixed, continues, therefore, unchangeable as long as it is maintained by the vital force. It may further be remarked, that separable cuticle may often be traced to that which is younger, and inseparable from the other cellular substance with which it is in contact, and from which it possesses no organic difference.

The cuticle is generally perforated by small openings, and these are termed STOMATA, or pores; by some they are regarded as imperforated glands, whilst others regard them as openings connected with respiration. They are composed, in some of the species of *Crinum*, of two elastic kidney-shaped bladders, which lie over an opening of the cuticle, and are pressed together by the action of two opposing springs, by whose contraction the pores are opened. They are not found on mosses nor on fungi, on algæ nor on lichens, on submerged plants nor on plants growing in darkness, on roots nor on the ribs of leaves; they are frequently found on one surface of a leaf, but are absent from the other; they may generally be seen on the calyx, often on the corolla, and rarely on the filaments or style. Brown is of opinion that the two glands, or rather bladders, of which a stomate is composed, are each analogous to the single bladders found occupying the inner face of the meshes of the cuticle.

The surface of the cuticle is either smooth or furnished with numerous processes or appendages, which originate either from the cuticle or the cellular substance beneath it, and are entirely independent of the vascular and ligneous systems; these are, *hairs*, *scurfiness*, *glands*, and *prickles*. HAIRS are minute transparent cellular bodies, formed either of a single cell of tissue or of several placed endways in a single series; they are not found on true roots, except at the time of germination, nor upon any parts of the stem that are formed under ground or that grow under water. They are of two kinds, namely, *lymphatic* and *secreting;* the former taper gradually from the base to the apex, the latter are visibly distended into receptacles of fluid. The various parts of plants, when clothed or furnished with hairs, are described as being downy, pilose, villose, tomentose, ciliated, bristled, stinging, hispid, silky, arachnoid, rough, bearded, and stellate, to which might be added other terms, chiefly modifications of the above. SCURFINESS is of two kinds: *scurf*, properly so called, is the small, roundish, flattened particles which give a leprous appearance to the surface of plants; *ramentæ* are thin brown foliaceous scales, sometimes abounding on young shoots, especially the backs of the leaves of ferns: both of these consist of thin flat membranous processes, formed of cellular tissue springing from the cuticle. GLANDS are small collections of firm cellular tissue, formed for the purpose of secreting the juices of the plant; they are known by the terms stalked, sessile, and lenticular glands, papillæ, &c. PRICKLES are rigid opaque processes, formed of cellular tissue, and terminating in a point, which becomes indurated. They have no connexion with woody tissue, by which character they are obviously distinguished from spines. They are found on all parts of plants except the stipules and the stamens; rarely on the corolla: their most common position is on the stem and the petiole of the leaf.

THE STEM.

When the vital action of a seed is excited the tissue becomes developed in three directions; namely, upwards, downwards, and horizontally. That portion which elongates downwards is called the *descending axis*, or *root;* that which lengthens upwards is the *ascending axis*, or *stem;* that which extends horizontally is called the *medullary system;* and the part whence all these axes start is called the *neck*, or *collum*. The descending axis is characterised by its avoidance of light, and by its penetrating the soil; from it are produced the fibres or feeding points: the ascending axis, on the contrary, is constantly striving to expose all its parts to the influence of light, and from it are developed, according to fixed laws, the leaves, and their appendages, as well as all the modifications in which these appear. As this mode of development is common to all plants, it follows that, during the earlier stages of growth at least, they all have these parts; and, therefore, when a plant is described as being rootless or stemless, such terms are not to be regarded as being physiologically correct.

The ascending axis, or STEM, demands our first consideration. The stems of plants are of two distinct kinds, and of each of these there are numerous modifications.

Subterranean, or *underground stems*, are such as are very commonly called roots, from which, however, they essentially differ in their ascending tendency and origin, as well as by their structure. Of these, we have the *cormus*, which is the dilated base of the stem in some monocotyledonous plants; it is composed of cellular tissue traversed by bundles of vessels and woody fibre, and has the form of a flattened disk; the Crocus, Colchicum, and Arum afford examples of this kind of stem: the *tuber* is an annual thickened stem, provided with buds, from which new plants are produced: in some varieties of potato, as, for example, that called the pineapple, the position of these buds indicates the real nature of the body on which they are produced; whilst in others the excessive development of cellular tissue renders them shapeless masses, and their origin is less perfectly portrayed: the *creeping* stem is exemplified in the couch grass, the horizontal underground stems of which are vulgarly termed roots; it differs from the *rhizoma* only in being subterranean.

Aerial, or *aboveground stems*, are also of various kinds. The term *stem* is usually applied to the ascending axis of annual and herbaceous plants and shrubs, whilst the stem of trees is termed the *trunk;* the *runner* is a slender prostrate stem, forming leaves and emitting roots from its extremity, as in the strawberry; it may be rightly regarded as a prostrate viviparous scape, that is, a flower-stem, in which the "germ of extension" becomes developed as leaves instead of blossoms; the *sucker* is a branch proceeding from the neck of a plant, beneath the surface of the soil, becoming such as soon as it emerges from the soil, and producing leaves, branches, and roots; the *offset* is a short lateral branch produced in some herbaceous plants, as in Sempervivum, and but little differing from the runner; the *rootstock*, or *rhizoma*, is a thickened rooting stem, which annually produces young branches and leaves; the *vine* is a stem trailing on the ground without rooting or entangling itself with other plants, as in the cucumber; the *pseudo-bulb* is an enlarged aerial stem, resembling a tuber, but differing in being formed above ground, in having a cuticle often extremely hard, and in retaining the scars of leaves which it once bore. Besides these there are several other modifications of stems to which terms of distinction are applied, but which I have not space to notice more fully. Some plants are apparently destitute of a stem, and such are technically termed "stemless." This, as has been previously remarked, is not strictly correct, as plants cannot exist without a stem: in these cases, however, it is extremely short.

Branches are caused by the development of buds, or *gemmæ*, from the stem; and they may therefore be regarded as lateral extensions of the axis. The buds from which branches are developed are formed for the most part at the node, that is, the part of the stem from which the leaves arise, and branches should, consequently, have a disposition around their axis, similar to the leaves themselves. This is not, however, practically found to be the case, owing to the non-development of many of the axillary buds, and also to the occasional development of buds from the internodes. Although buds are formed at every node in the angles formed between the base of the leaves and the stem, yet they are not developed until they are influenced by the force of the vital action of the plant; and it is from this cause that the irregularity frequently to be observed in the distribution of branches proceeds; an instance of this occurs when young branches sprout from the old stems of trees. Branches are themselves capable of developing buds from their axis in a similar manner to the stem; and hence the lateral extension of plants is entirely indeterminate. *Leaf-buds,* or *gemmæ*, consist of scales imbricated over each other, surrounding a minute cellular axis, or *growing point*, which originates in the pith, and is in direct communication with the woody and cellular tissue of the stem. They have a special power of extending in length, and are generally clothed with leaves as they advance, and thus become branches; but in some cases they harden as they extend, and sharp conical projections are formed, which are called *spines;* these manifest their origin by frequently bearing leaves and even buds, as in the genus *Cratægus*, and they must not, therefore, be confounded with *prickles*, which have been previously noticed, and are mere external concretions of hardened cellular matter. Spines are in direct communication with the interior of the stem, and have a considerable quantity of woody tissue in their structure. The manner in which the young leaves of plants are folded up in these leaf-buds is called their *vernation*, or *foliation;* and it is a point of considerable importance in systematic botany.

As regards their internal structure, vascular stems may be separated into two principal kinds, which are termed EXOGENOUS and ENDOGENOUS. The stems of exogenous plants are characterised by a central cellular substance, called the *pith;* a series of vessels surrounding this, called the *medullary sheath;* external cellular and fibrous rings, called the *bark;* an intermediate mass, termed *wood*, consisting of woody fibre; and certain thin plates, radiating from the pith to the bark, through the wood, called *medullary rays*. The stems of endogenous plants are known by having neither bark, nor wood, nor pith, nor medullary rays, distinguishable, but are composed of vasiform and vascular tissue, embedded in cellular and woody tissue. The stem of cellular plants is composed by the union of the bases of the leaves, and is increased by additions to the point of its axis, or by simple elongation or dilatation; this kind of stem is called ACROGENOUS.

In the stems of exogenous plants the *pith* is almost exclusively composed of cellular tissue, though, in some few instances, De Candolle and Mirbel have discovered woody fibres; and also in *Nepenthes* a considerable quantity of spiral vessels have been found in it. The *medullary sheath* consists of spiral vessels, immediately surrounding the pith, from which it diverges whenever a leaf is formed; and thus it is in direct communication with the leaf-buds and the veins of the leaves, and establishes a connexion with the axis, and its appendages, which in all cases are prolongations of it. The *wood* lies on the medullary sheath, and consists of annually deposited concentric layers, formed by the successive adhesion of the descending fibres of the buds, and by the interposition of the medullary rays, connecting the pith and the bark: these layers consist of woody and vasiform tissue, either in distinct strata, the woody tissue being outermost, or intermingled together, and nearly obliterating the appearance of zones: when the tissue of these layers becomes filled with secretions it ceases to perform vital functions, and in this fully-formed state is called *heart-wood;* if in a living state, and imperfectly formed, it is called *alburnum.* The *bark*, or external coating of the stem, when but one year old, consists of a cellular integument, called the cuticle or *epidermis*, already noticed, and an internal lining of woody tissue, called the *liber* or inner bark: similar layers of cellular integuments and woody tissue are annually formed, internally with respect to the existing bark, and therefore in contact with the wood. The *medullary rays* consist of thin plates of cellular matter connecting together the tissue of the trunk: the cellular matter in this form is termed muriform. Between the bark and the wood, in the spring, there is interposed a viscid matter, called *cambium*, which, when magnified, is observed to consist of transparent granules of cellular organisation, and which is supposed to be destined to afford a proper pabulum to the descending fibres of a bud; in all probability it is the organising matter in which the cellular tissue of the medullary sheath is engendered.

The functions of the *stem* are to bear the leaves and other appendages of the axis, and to expose them to the action of light and of the atmosphere; to convey fluids both from the root upwards, and from above downwards; and to store up the peculiar secretions of the plant. The *pith* has had various functions assigned to it, analagous to those of the brain, the lungs, the stomach, the nerves, and the spinal marrow, in animals: its real use is probably to serve as a receptacle for the sap during the infant stages of growth, by means of which the tender vessels surrounding it gain their nourishment. The *medullary sheath* seems to be very important, as, by its being cut through, the vitality of the plant above the incision is destroyed, although the bark, the pith, and the wood may be removed, and yet vitality may be maintained: it may be supposed that its office is to convey oxygen to parts inaccessible to the external air, and parting with it to the carbon of such parts, to produce carbonic acid; without the power of composing and decomposing which no part of a plant exposed to light could long exist. The *wood* is at once the support of all the deciduous organs of respiration, digestion, and fertilisation; the deposit of secretions peculiar to individual species; and the reservoir whence the newly-formed parts derive their sustenance until they can establish communication with the soil. The *bark* acts as a protection to the young wood, and is also a medium in which the proper juices are finally elaborated in their descent, and by it they are horizontally communicated to the medullary rays, and by the latter deposited in the tissue of the wood: when young it is green like leaves; and the late Mr. Knight concluded that it exercised an influence on the fluids deposited in it, wholly analogous to that exercised by leaves: hence it has been named the "universal leaf of vegetables." The *medullary rays* no doubt maintain a communication between the bark, in which the secretions receive their final elaboration, and the centre of the stem, where they are at last deposited.

The vascular system in exogens is confined to the space between the pith and the bark; it exists in immediate contact with the former, consisting, as already observed, of spiral vessels, forming a layer, called the medullary sheath. In the stems of endogenous plants the vascular and cellular systems are as distinct as in exogens; but, instead of being distinguishable into several parts, the cellular system is a uniform mass, in which the vascular system is embedded in the form of thick fibres, having no tendency to collect in zones or wedges resembling wood. It is supposed to increase in diameter by the additions of fresh bundles of fibres, or vascular tissue, in the centre; whilst in exogens the increase takes place between the bark and the wood, and, consequently, at the circumference.

This part of the subject (which is an important one) might be extended to a much greater length, by entering into the theoretical and speculative arguments of botanists respecting the structure of the stem; but in a mere general outline, such as this, neither space nor time will admit.

THE ROOT.

At the time of germination, when the stem is developed, and seeks the light, the descending axis, or the ROOT, is developed in an opposite direction. This organ in its internal structure differs but little from the stem, excepting that its cellular substance is frequently subject to an extraordinary development. Independently of its origin, the root is to be distinguished from the stem by its ramifications occurring irregularly, and not proceeding from fixed points, as the buds of branches do, but from any indeterminate point: the root does not produce leaf-buds, except it be, in some cases, what are termed *adventitious buds;* and the irregular manner in which these are produced afford sufficient evidence of their origin: neither has it any scales, leaves, or other appendages, all underground bodies on which such have been found being in reality stems, by whatever name they may have been called. The only appendages roots have are little hollow floating bladders, such as occur in *Utricularia:* they have no stomates on their cuticle; and in exogens they have no pith, thus being clearly distinguished from the stems in this division of plants.

The body of the root is termed a *candex*, whilst the minute ramifications are called *fibrils:* these latter are little bundles of annular ducts, or spiral vessels in connexion with the vascular system of the root; and their apices, technically called *spongioles*, consist of extremely lax cellular tissue and mucus: these spongioles have the property of absorbing fluids; and hence they are sometimes regarded as the mouths of plants, though they may more properly be regarded as being analogous to the lacteals of the stomach. Some roots are fleshy, and divided into lobes, as in Orchis and Dahlia: these have been called *tubers;* but that term is erroneously applied to them, tubers being underground stems, and not roots. Such fleshy roots appear to be intended as reservoirs of nutriment, and may be not improperly termed *tubercles.*

The office of the root is well known to be that of absorbing nutriment, and transmitting it to the stems and leaves; for, although moisture is, without doubt, absorbed also by the leaves and the bark of all plants, yet the greater part of their food is as certainly taken up by the roots. They do not, however, absorb nutriment by their whole surface, but it is to the spongioles almost exclusively that this office is confided; and hence arises the importance of preserving them in the process of transplantation. Roots serve also as an anchor, to fix plants in their respective situations.

It is generally believed that roots increase only by their extremities, and that, once formed, they do not undergo any subsequent elongation. Many experiments have been made on this point by Duhamel, Knight, and others, which tend to prove this; and we hence gain a beautiful view of the manner in which they are enabled to penetrate the crevices of rocks, by the continual formation of new matter at the advancing point: when once this is insinuated the force of horizontal expansion speedily enlarges the cavity, and, if any obstacle arrest their progress, they simply stop, cease to elongate in that particular direction, and follow the surface of the opposing matter until they reach a suitable medium.

Besides taking up food and transmitting it to the leaves, it is commonly believed that the roots also perform the office of returning a certain portion from the system, which are termed the excrementitious rejections of vegetables. It appears to consist of certain peculiar secretions of the plants, and varies greatly in different plants, and in accordance also with the quality and nature of the food with which they have been supplied. Although a disputed doctrine, yet the experiments which have been instituted to prove the existence of these secretions appear to be somewhat satisfactory. I may mention that of Macaire, who introduced part of the roots of *Mercurialis annua* into a bottle containing pure water, and the remainder into another containing a solution of acetate of lead: in a short time the bottle in which the pure water was placed was found to have received a notable proportion of the acetate, which could have been received from no other source than as being given out by the roots placed in that bottle, whilst it was taken into the vegetable system by the root in the other bottle.

The necessity and advantages of rotation of crops is probably explained by this doctrine, without the admission of which both this and many other important matters would be found to be difficult to solve.

REMARKS ON TIGRIDIA CONCHIFLORA; ITS CULTIVATION AND PRESERVATION.

By Mr. E. A. Hamp, Gardener to T. Thorne, Esq.

It must be a source of regret to all admirers of this beautiful flower that it should have been in this country twenty years, and now so rarely met with; and never do we hear its name mentioned but with a remark on its aptitude to rot in winter. A slight examination into the cause of this must soon convince us that our ordinary treatment is inappropriate; the great cause I have found to be the injury the roots sustain at the time of their removal from the bed at the approach of winter: our short and often cold summers being insufficient for a full development of the foliage and flowers, the bulbs are consequently immature, or perhaps the plant is arrested in the midst of its most active growth. By the general practice the bulbs are put into the beds or borders in March or April, and they are scarcely above ground by the middle of June, and do not show flowers until September; consequently the early frosts frequently overtake them in a vigorous growing state, when they are taken up and stowed away for the winter in an unprepared state. What else can be expected from such treatment but decay and consequent disappointment? What would be the effect of such treatment on any other bulb but the same result? The practice I have found most successful is the following:—In the month of March get some 48-sized pots and nearly fill them with peat, put three bulbs into each pot at equal distances, and fill up with the same material; then place them in any pit-frame or vinery at work, where there may be room for them, giving them just as much water as will prevent the earth from becoming dry and dusty, until they show themselves above the surface, when water may be given rather more freely. When about two inches above the soil, remove them to the greenhouse, cold frame, or under a hand-glass, to harden. In the first week in May place several pots of the plants in one large pot or tub, in peat alone, first putting a quantity of drainage at the bottom, and then set it in the clump or border appointed for them, covering with sufficient earth to conceal the pot, and giving a liberal supply of water in hot dry weather. By these means I secure an early vigorous bloom; and at the first approach of winter I remove the pot or tub to a place of security from frost, limiting the supply of water until the foliage exhibits a natural decay, when I withhold it altogether. The roots are then placed (tub and all) in some shed or cellar until wanted again the ensuing spring. Tigridia conchiflora is a native of Mexico, and was introduced into Britain in 1823: it is set down in the *Hortus Britannicus* as a species, but my experience leads me to infer that it is no more than a variety, of its handsome relative, Tigridia pavonia, as the majority of the seedlings I have raised from it have a marked tendency to produce dingy red flowers; however they were growing not far from pavonia, and probably might be impregnated by it: but whether it is a species or only a variety the cultivator need care but little. I have been thus prolix in detail in the hope of being useful. It will be seen at once that by the system here recommended the roots are preserved from injury by breaking, and the foliage from frost, the advantage of which to the bulbs must be evident to every one. If these remarks are worthy a place in your valuable Journal, their insertion will greatly oblige

South Lambeth. E. A. H.

ON CACTEÆ.

THIS anomalous order or division of vegetation consists of succulent plants, singular and various in structure, generally without leaves, and having their stems or branches jointed in some species.

The greater part of them are armed with spines in bundles, and in some bristles are intermixed: these bundles of spines are always placed at the top of the tubercles, as in Echino and Melocacti, which are of a roundish form, and tubercled all over, producing their flowers from between the tubercles, or *mammillæ*, round the middle of the plant.

There are some species which are clothed with long white hairs, as C. senilis, while others have spines arranged in a single row on the ridge of the ribs: these are mostly oval, or of a globular form; in others the deep ribs are set all over with strong sharp thorns or spines. The use of these spines has long been a matter of controversy, and we are now, perhaps, as far from the correct assignment as at the outset. It cannot be that they are required solely for a defence from the attacks of animals, as from the nature of their habitats, chiefly inaccessible spots, they are not necessary in this light; but it may be, that in a climate so subject to powerful electrical effects, a most important effect on the vitality of the plant is wrought by these means, the several and numerous points acting as so many conductors. In the erect species of Cereus which support themselves, some are slender, and rising up high, jointed, and branched; some are nearly cylindrical, while others are square and three-cornered; and there are some of the latter which are named from the number of angles they produce. They are mostly compressed and far asunder, armed with sharp spines in clusters at certain distances, spreading from a centre every way; opposite to these are the creeping Cereuses, whose stems are weak and not able to support themselves; these seek support from the trees by sending forth roots from the stems like ivy, and clasping the trunks or branches which come in their way in so fast a manner as to keep themselves from being blown away. This strange and curious family of plants are mostly found on the sides of steep rocks in the hottest parts of Africa, the West Indies, and South America. Some species are very common in Guatemala and Cheapo in Mexico, where they seem to be thrust out of the apertures of the rocks, and having little or no soil to support them they send their long roots down into the fissures of these rocks for an amazing distance; from such situations they seldom live long when brought over here and planted in richer soil.

But few collectors pay the proper attention to the state of the plant when gathered, or to the necessary drying and packing of them for importation to this country. They ought to be cut or pulled off at least a week or ten days before they are packed, that they may dry a little: the packing should be done with thoroughly dry soft hay, to keep them from wounding each other with their spines. If stowed into strong cases in this manner, every thing being perfectly dry, and care being taken that wet does not get at them afterwards, they will bear a voyage of three, four, or even five months very well.

As soon as the plants arrive in England, those that have any soil about them should have it shaken away, and they should be allowed to lie in a dry part of the stove for a few weeks, and afterwards be potted in equal parts of loam and sand, with a quantity of small stones placed in the bottom of the pot, so that moisture may have a free passage from their roots, an efficient drainage being most essential in the culture of all succulents; for if water be retained in the pots it rots the roots, and ultimately destroys the plant. As soon as they are potted let them be plunged into a frame where a gentle bottom heat can be had, and kept close for a week or two, observing to shade if the sun comes too powerful upon them, which will greatly facilitate their making new roots: now and then they should be refreshed with a little water, being careful at the same time to give it only in small quantities, and not too often, before they are rooted. By the time they have attained a good hold with their new roots they should be inured by degrees to the air, and afterwards be removed to the stove, where they may remain, observing to place them near to the glass, that they may enjoy fresh air and the bright sunshine. During the winter months the plants should be watered about twice a week, but not in large quantities. In the summer they demand a greater share of both water and air, but still to remain constantly in the stove. They will bear exposure to the open air through the summer, but the great rains, as well as the unsettled temperature of the air in our climate, greatly diminishes them by retarding their growth; and sometimes in wet summers they will get so saturated with moisture that they rot the following winter.

Most of them may be easily increased by seed. In spring, when the fruit becomes shriveled and dry, the seeds will then be ripened, so that they may be rubbed out and sown in a pan filled with sharp white sand, or they may be sown in the pot in which the parent plant is growing; in this case the surface of the soil must not be disturbed after sowing. There will usually be plenty of young plants spring up without any further trouble; and when they have got to a proper size to remove, six or seven should be put into one pot, and allowed to stand one year; after that time they will be ready to remove singly into small pots, when they may be plunged into a gentle hot-bed during the summer.

J. Henshall.

LIST OF NEW PLANTS.

ORCHIDACEÆ.—*Gynandria Monandria.*

Cattleya marginata. This is one of the many treasures in the collection of Messrs. Loddiges of Hackney, and was imported by these gentlemen from Brazil. It blossomed in their orchidaceous-house during the month of October last.

It is of dwarf habit; the flowers are very large compared with the size of the plant, and are borne singly on the top of the new pseudo-bulbs; they assume a drooping character, which greatly improves their effect when the plant is suspended. The sepals and petals are of that delicate rosy-crimson which is found in several species; and the handsome lip is much like that of *C. labiata*, but has a beautiful white border, which is the peculiar characteristic of the plant, and hence its special name.

To grow it nicely it should be fastened to an old log of wood, and kept in a cool house during winter; the cooler part of the orchidaceous-house, where it will not get too much moisture, will likewise suit it best in summer.—*Pax. Mag. Bot.*

COMPOSITÆ. — *Syngenesia æqualis.*

Triptilion spinosum. A lovely herbaceous perennial plant with pinnately-lobed leaves and small brilliant blue flowers, gathered into compact heads which appear to be copiously produced. It was raised from Chilian seeds by Mr. Frost, gardener to the Countess of Grenville at Dropmore. Mr. Glendinning of the Turnham Green Nursery, who flowered it well last autumn, writes respecting it thus: "Its scarcity in collections is attributable to three causes; viz. the sparing way in which it has hitherto been increased, the want of the true desideratum of culture, and the great difficulty attending its preservation during winter. I perpetuate it by division of the roots; this means of increasing it, however, is a very sparing one. It should be divided early in the autumn, that the plants may be established before the damp days arrive. It must not from this be inferred that the plant is tender; on the contrary, it will resist considerable intensity of frost without injury. It will produce seeds, although not freely; these should be sown immediately after gathering in light sandy soil, and placed in a warm house." The mature plants require tough fibrous heath-mould, a little turfy loam and leaf-mould, with a small quantity of broken sandstone mixed in the compost: a dry situation in the greenhouse suits them. — *Pax. Mag. Bot.*

LEGUMINOSÆ. — *Diadelphia Decandria.*

Phaseolus Caracalla. In the description accompanying an excellent plate, Mr. Paxton mentions this as the plant which having recently acquired the name of *Glycine* or *Wistaria Harrisonii* is being put forth as a novelty, it being in reality a very old but scarce stove twiner. It bears long racemes of large flowers of a purple and yellowish hue, which are both curious and ornamental, having a not very distant resemblance to the anatomy of the snail. — *Pax. Mag. Bot.*

RANUNCULACEÆ. — *Polyandria Polygynia.*

Clematis montana var. grandiflora. This handsome variety of the very fragrant *Clematis montana* flowered in the open ground in the garden of Mr. Veitch of Exeter. The flowers are white and large: their profusion, the delicacy of their colour, and their fragrance, are strong recommendations. The species is a native of Northern India. — *Bot. Mag.*

AMARANTHACEÆ. — *Pentandria Monogynia.*

Gomphrena pulchella. This new species of Amaranth was imported by Mr. Veitch of Exeter from Monte Video, where it was first found by Sellow.

It cannot fail to remind of our own well-known *Gomphrena globosa;* but the heads of flowers are much larger, and of a brighter though paler hue; and whereas the colour of the common Globe Everlasting is due to the floral bracteas, which are longer than the pale green flowers, here the coloured flowers are much longer than the bracteas, and give to the heads altogether a different character. It is an annual, and will probably be found to succeed in the open flower borders. — *Bot. Mag.*

CONVOLVULACEÆ. — *Pentandria Monogynia.*

Convolvulus ocellatus. A very neat Evolvulus-like species of Bindweed, discovered by Mr. Burke at Macaliberg in the interior of Southern Africa, and raised from seeds in the greenhouse of the Right Hon. the Earl of Derby at Knowsley, where it produced its pretty white flowers with a purple eye in the month of August. The plant is shrubby, the lower part especially; procumbent at the base, there bearing many nearly erect silky branches rather thickly beset with leaves, the largest of which are scarcely an inch long; the flowers too are small, being scarcely an inch in diameter, but are abundantly produced. — *Bot. Mag.*

LEGUMINOSÆ. — *Diadelphia Decandria.*

Lupinus arvensis. A gay little plant, forming one more addition to the large genus Lupinus. The flowers are large, bright lilac, enlivened by a yellow spot on the white centre of the vexillum. In number the leaflets vary from 5 to 9. The seeds, by which Lupines may be distinguished more accurately than by the ordinary marks employed by botanists, are oblong, smooth, and mottled with grey of different tints. It is a half-hardy biennial, growing from one to two feet high, and flowering a great part of summer and autumn. Like other Lupines it requires a strong rich soil, and although a half shrubby biennial is best treated as an annual. It was found growing in corn fields near Loxa in Peru by Mr. Hartweg, and flowered in the garden of the Horticultural Society in the course of last autumn. — *Bot. Reg.*

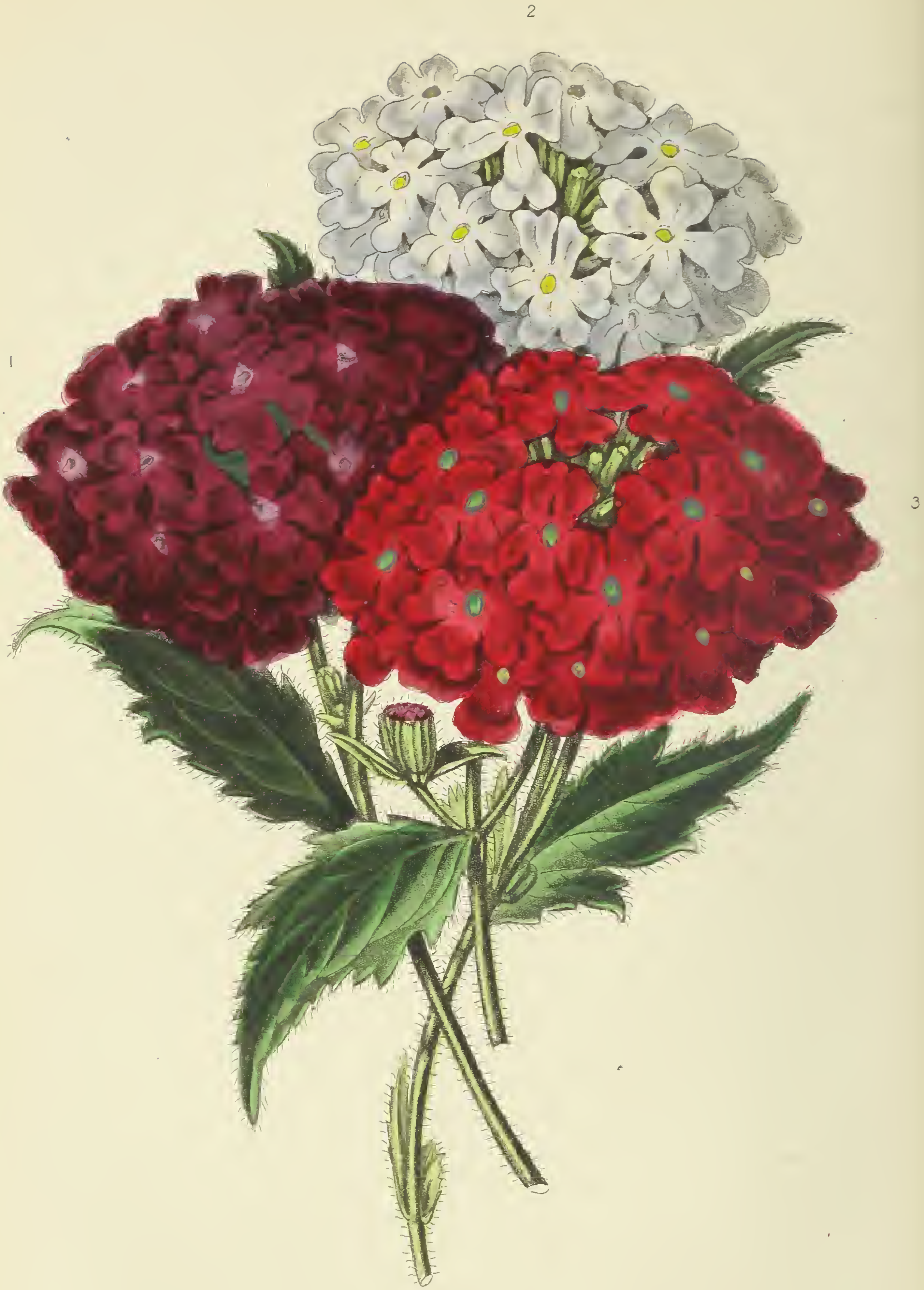
CALENDAR FOR FEBRUARY.

PLANT STOVE. Towards the end of the month many plants will be likely to betray symptoms of excitability, if the weather is at all favourable. The success of culture depends much on taking advantage of these appearances, and then, nor till then, applying the natural stimulants, of an increased degree of heat and moisture, and a proper renovation of the soil. This is, perhaps, specially important to plants having bulbous or tuberous roots containing a supply of food; for when chemical action, combining with vitality, has once set this in motion, it cannot be checked in its action without material injury. Before new growth commences every exertion should be made towards eradicating both diseases and insects from that which already exists. Orchidaceous plants especially should be encouraged to make a rapid growth as the days lengthen and the sun gains power. No better time can be taken for the sowing of seeds imported from foreign countries, or those saved from stove and greenhouse plants grown in this country ; a light soil, exclusion from light, a moist calm atmosphere, unfavourable to evaporation, and a moderate but steady degree of heat, are the principal conditions required to assist in the germination of seeds. Average temperature, 70°.

GREENHOUSE. In this department air should be admitted as freely as possible, so that no dampness may accumulate. The growth of the plants, *generally*, should not be excited by encouraging a close warm artificial atmosphere ; it will be better to await the natural return of these favourable conditions. When growth commences in any plant, encourage it freely by all possible justifiable means ; but avoid a high temperature, for it is the source of many injurious results. Temperature, 45°.

FLOWER-GARDEN. This should receive attention in the frequent *forking up* of the beds and borders, whereby the soil will become sweetened by exposure to the air : avoid treading or trampling on them for an opposite reason. Herbaceous plants may be removed and transplanted; such as have grown to a large size should be reduced, retaining a portion of the outside of the patches only to replant. A few annuals may be sown in dry and warm situations ; they may survive, and in that case will perhaps produce a few early flowers. Plant Ranunculuses by the middle of the month. Beds of Hyacinths, Tulips, Narciss, &c., which have been protected with litter, should have part of it removed ; and when the leaves begin to appear, they should be protected by mats or awning during night. Coverings of all kinds, as they become unnecessary, should not be suddenly removed, but this should be effected in a very gradual and cautious manner ; very much depends on this. Roses, flowering shrubs, and trees of all kinds, should be pruned before their growth recommences ; all these, too, may now be transplanted with success. Box-edgings may be planted ; turf may be laid down ; walks both of grass and gravel may be formed. Gravel walks and grass lawns should frequently be well rolled, and the edgings properly and neatly cut : nothing is worse than a deep-cut edge in the margins of walks. Continual cleanliness, at all times requisite, is perhaps more than ordinarily so now, when Nature begins to renew her smiles.

T. M.



VERBENA'S

1, HENDERSONII. 2, BLUE QUEEN. 3. ZEUXES

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THE

FLORIST'S JOURNAL.

March, 1844.

THE VERBENA.

WITH AN ENGRAVING.

The genus Verbena displays to those who delight in witnessing and recording the improvements effected by earnest zeal and well-directed attention, another instance of the immense advances made in the cause of horticulture within a very late period.

The advance to perfection of this family has been so quickly, and, we had almost said, thoroughly brought about, that the merit appears to be due solely to the present race of horticulturists, men who are still pursuing the course which has been attended with such pleasing results in the case before us. Verbenas are flowers that were almost unknown to our grandfathers, and even so late as 1836 the late respected Mr. Loudon, after describing about a dozen species that are now utterly discarded, terms it a "weedy genus," of which only Aubletia and Lambertii were worth attention.

The additions that were made through the succeeding four or five years was astonishing, as we find, in 1840, upwards of forty species enumerated; but even this increase of the genus falls into comparative nothingness when we think of what has since been done by British cultivators; for we have now before us a list, containing the names of above two hundred species and varieties: in fact, the whole family has become so ductile by frequent hybridizing and crossing, that the usual treatment has almost merged into that of half-hardy annuals. We remember well the introduction of *V. Melindres* or *chamædrifolia*, and the stir it made among flower gardeners; its variety, *M. latifolia*, soon after made its appearance, and was followed by *Tweediana*, which, in its turn, was succeeded by *Arraniana*, and immediately after *Teucrioides*, from Monte Video, was announced; and from this may be dated the gradual increase and rise of the "weedy genus" to its present importance.

It would be an act of supererogation to force upon our readers a detailed account of the method of cultivating a tribe of plants so thoroughly understood; we therefore content ourselves with two observations — first, we would tell the amateur that Verbenas are seldom preserved in health through the winter, unless they have just sufficient warmth allowed to keep them gently growing; and, secondly, we beg to remind the professional gardener, that young plants derived from cuttings struck at this season, form finer subjects for turning out in May than the old naked-stemmed plants that have stood the winter either in frames or houses. Verbenas are so generally grown for the purpose of decorating the flower garden through the summer months, or "turning out," as it is technically termed; and the proper arrangement of their colours is of so much consequence that we feel almost tempted to enlarge on the subject; but having spoken so frequently on grouping and complemental colours, we are fearful of a charge of plagiarism, and so only just hint it to the cultivator, that he may be prepared when the season arrives.

No. 1., Hendersonii, is a variety well known and appreciated for its distinct colouring.

Nos. 2. and 3., Blue Queen and Zeuxes, of our present illustration are seedlings of last season, raised by Mr. W. Miller, nurseryman, of Ramsgate, the fortunate originator of the lovely Petunia punctata we had the satisfaction of figuring last month; they are kinds that will be necessary in all collections.

In botanical arrangement, this genus is placed in the class Didynamia and order Angiospermia of the Linnean system, and it is the type of the most strangely mixed order to be found in the Jussieuean or natural system. EDITOR.

LIST OF ORCHIDEÆ.

(*Continued from page 5.*)

148. *Epidendrum virescens.* (Derived from pale green.) Plant destitute of bulbs; leaves alternate up the stem, placed in the same form as the Iris, and of a pale green colour; flowers proceeding from the summit of the shoot, of a green and yellow colour. This species will either do on a clump of wood or in a pot, provided there is a free drainage. It does not require much water when growing, and a temperature of 65° to 70°. — *Native of Brazil.*

149. *Epidendrum equitans.* (Derived from the leaves being folded upon one another.) This plant is much similar in growth to the above, only rather more robust; the leaves are more compressed and acuminated; the scape is naked, and the raceme is spiked, proceeding from the summit of the stem; flowers are pale yellowish green, but of no beauty. It requires the same treatment and temperature as the above. — *Native of Mexico and the Society Islands.*

150. *Epidendrum nutans.* (Derived from nodding.) Plant destitute of bulbs; stems simple, nearly three feet long; leaves ovate, lanceolate, alternate up the stem; spike terminating the summit, nodding; flowers greenish white; the labellum 3-lobed; the middle lobe 3-toothed. This species requires pot culture in a mixture of turfy peat and sphagnum, and to be liberally supplied with water while growing; temperature, 70°. — *Native of Jamaica.*

151. *Epidendrum ciliare.* (Derived from the labellum being fringed.) Plant destitute of bulbs; stems one foot long; leaves in pairs, oblong, and veinless; flower spike produced from the summit, and supporting eight or ten flowers; the sepals and petals are pale green; labellum white, 3-lobed, the middle one linear, with the two outside lobes ciliate or fringed. This species also requires pot culture, with the same kind of soil, and plenty of water while growing; temperature, 65° to 70°. — *Native of Martinico.*

152. *Epidendrum aurantiacum.* (Derived from its flowers being orange-coloured.) Plant with bulbous stems ten inches long; leaves in pairs; flowers rather small, produced from a short spike; the sepals and petals orange, with the labellum a little darker. It is also known as Cattleya aurantiaca, but I find it differs a little from that genus in the generic character of the flower; but the plant is so similar in growth that it might be easily taken for one. It requires the same treatment and temperature, but rather a longer resting season. — *Native of Honduras.*

153. *Epidendrum Barringtoniæ.* Plant pseudo-bulbous; bulbs greenish white, ovate, slightly compressed, and a slight furrowed surface; flower-stalk, five inches long, erect; sepals and petals greenish, the apex of an olive brown, the two innermost the smallest, and the two lower lengthened out at the base and united into a short black pouch, the lip of the nectary arising from the back part of the inside of this pouch; it is somewhat shorter than the petals, covered on the upper side with an oblong, yellowish, deeply furrowed callosity, heart-shaped in front; its margin is 3-lobed, the lateral lobes small, acute, entire, erect, and transparent, terminating in a rusty brown, and beautifully fringed all round the margin; column white, elongated at the base, connected by its back to the pouch of the corolla and by its fore part at the bottom to the lip of the nectary, incurved and blunt at the top, behind obtusely keeled, flat, and with two slight furrows before; stamina red, close together; antheræ red, two on each filamentum, ovate, yellow; stigma large, very much excavated; germen somewhat longer than the pouch of the flower, green, nearly cylindrical, with six furrows. This is a valuable species,

not only on account of its size but its singularity, and of which I have given rather a lengthened description, on account of its being so similar in its growth to E. verrucosum, and for which it is often mistaken. — *Native of Jamaica.*

154. *Epidendrum Stamfordianum.* Plant with bulbous stems, one foot long, a little swollen in the middle; leaves in threes, seven inches long, and four inches broad; flowers produced on a half pendant raceme, branched, and rising from the base of the stem; the sepals and petals are one inch long, green, stained with longitudinal reddish spots; the apex of the column is purple; labellum pale green, with a darkish red mark in the centre, and fringed; its wings are large and white. This species is exceedingly handsome, particularly for its large racemes of flowers: it requires pot cultivation in a mixture of sphagnum, turfy peat, and rotten wood, with a liberal supply of water while growing, and rather a long resting season; temperature, 65°. — *Native of Guatemala.*

155. *Epidendrum alatum.* (Derived from *ala*, a wing, the column being winged.) Plant, pseudo-bulbous; bulbs about five inches long, and three inches thick; leaves in threes, two feet long, and a little better than two inches broad; flower spike three to four feet long, and branched; the flowers are large and handsome; the sepals and petals are yellowish green; column winged; labellum brown and yellow, more so at the apex. This species is worthy of cultivation, and requires the usual pot culture: it cannot be too often watered during its growth; temperature, 65° to 70°. — *Native of Guatemala.*

156. *Epidendrum leopardianum.* (Derived from being spotted.) Plant pseudo-bulbous; bulbs six inches long, two inches broad, and nearly flat; leaves mostly in pairs; flower spike from six to eight inches long; sepals and petals greenish, spotted with brownish yellow; the labellum is greenish white, with a few longitudinal stripes. This species is not very handsome; it will succeed either on a lump of wood or in a pot, with the same treatment and temperature as the above. — *Native of Brazil, I believe.*

157. *Epidendrum verrucosum.* (Derived from being warted.) Plant pseudo-bulbous; bulbs about the size of a hen's egg, of a pale green colour; leaves in threes, eight inches long, and rather better than two inches broad, a little crisp, and rather of a lanceolate shape; flower spike, eighteen inches long; flowers striped. This should be in every collection, as it is a very desirable species, requiring pot culture in a mixture of turfy peat, rotten wood, and a little sphagnum, also an abundance of water while growing; to cause it to flower it should have rather a long resting season; the temperature while growing, 65° to 70°. This is a very extensive genus, comprising upwards of two hundred species, both singular and beautiful in point of colouring; some are not handsome, yet they are perfumed with fragrance, which renders them worthy a place among the better sorts; some have caulescent stems, while others produce pseudo-bulbs of various sizes and forms; most of the former require pot culture on account of their upright position; the pseudo-bulbous will do either on blocks of wood, with a little sphagnum fastened round, or in baskets, which may be made of various ornamental forms; water should be given them freely during their growth, with a slight syringing in the evening of the hot summer months; they should also be placed in an airy situation, which will cause them to strengthen as they grow, for they seldom flower well when drawn up in too high a temperature, which should never exceed 70°, nor be below 60°, except during the resting season, when it may be lowered to 50°; at this period they seldom require water, except just sufficient to keep them from shrivelling; nothing is more injurious to them than an excess at this time, for they are then arrived at their full growth, and consequently require to be kept as sound as possible, to cause them to produce their flowers with sufficient strength.

John Henshall, K—p—y.

(*To be continued.*)

Horticultural Essays,

By the Members of the Regent's Park Gardeners' Society.

ON THE CULTIVATION OF PHLOX DRUMMONDII.

By Mr. G. Wyness.

The genus *Phlox* belongs to Pentandria Monogynia of *Lin.*, and the Nat. Ord. Polemoniaceæ. It consists of elegant border flowers, chiefly valuable for producing their lovely blossoms late in the season.

Amongst the many interesting and beautiful plants that have been introduced of late years to this country, there is none, in my estimation, which is more worthy of care and attention than *Phlox Drummondii.* Although it is now common in most parts of this country, it is rarely to be seen cultivated to perfection. When it is planted out in clumps in good soil, it is certainly beautiful for a short time; but to do it justice, it ought to be kept in the greenhouse, where it will amply repay for the trouble bestowed on it, by producing its lovely blossoms in abundance from May till December. If we take into consideration the length of time which it continues in bloom, or the pleasing effect produced by its great diversity of colours, which vary from the most brilliant scarlet to red, rose, pink, and purple, with all their intermediate shades, or, above all, its fragrance, I do not know of any annual plant which is more deserving of a little care; and, therefore, I would beg to recommend it to more general cultivation, by every lover of flowers who is possessed of a greenhouse, where, by proper treatment, it will prove a splendid ornament during the summer months, while the more permanent inmates are enjoying the open air.

I have had the *Phlox Drummondii,* this season, in flower from May till December: the plants were from four to five feet high, and covered with flower from the pot to the top of the plant, and were admired by every one who saw them.

I was induced to sow seeds in January, in the hope of getting strong plants early in the season; but at that period I could not give a sufficiency of air, and, consequently, the plants got long and straggling, with naked stems, before they came into flower.

The mode of treatment I have pursued with the greatest degree of success is the following: — About the first week in March I sow the seeds in mould from well decomposed tree leaves, to which I add about one third of silver sand; and having the pots well drained with a good handful of potsherds, I fill them with the soil, and sow the seeds thinly over the surface, cover them slightly, and then give them a gentle sprinkling with water from a fine-rose watering-pot, and place them in a hotbed frame, where the heat ranges from 65° to 70°.

I have always found it to be of great advantage to place a piece of glass over the seed pot, as I think it assists the germination of the seeds, and obviates the necessity of watering again before the plants are above ground. I believe there are more seeds lost in consequence of giving too much water at this stage than through any other cause. When the young plants have developed about two pair of leaves, I pot them singly, into 60-sized pots, in the same sort of soil as the seeds were sown in, and I then return them again to the frame, until they are well established in the small pots; when this is the case, I shift them finally into 32, and some into 24-sized pots, using a compost of one part turfy loam, one part rotten dung from an old hotbed, and two parts of mould from decomposed tree-leaves, to which I add a little sand. In this final shifting, after the pots are thoroughly drained with potsherds, I fill them up nearly one third with partly decayed tree leaves: this is of great advantage in the circulation of moisture, and the decaying matter affords nourishment to the absorbing fibres. When the plants are shifted, I put them again into the frame, and place them as near to the glass as circumstances will admit, giving them air freely during the day, on all favourable opportunities. I generally sprinkle the plants over head with water, of the same temperature as the atmosphere in the frame, and shut up early in the afternoon: as the plants advance in growth, I pinch off all their tops, in order to cause them to grow compact and bushy.

If seeds are not a principal object in view, it will be of the utmost importance, and administer largely to the ultimate vigour of the plants, to remove all the decaying flowers and seed vessels; for, although the fruit or seed vessel is able to assist in the production of organic matter, yet it returns no part of the substances thus formed to the plant on which it grows, but rather by absorbing the matter formed by the leaves, and converting it to its own appointed use, it checks the growth of the plant that bears it, and ultimately hastens its decay.

Buckingham Palace Gardens, December 27. 1843.

PRIZE ESSAY,

ON THE CULTIVATION OF THE STRAWBERRY.

BY MR. W. TURNER.

THE strawberry belongs to the Natural Order *Rosaceæ*, and to the Class *Icosandria* and Order *Polygynia* of Linnæus; its generic name, *Fragaria,* is derived from *fragrans*, odorous, on account of its fragrant smell. There are three indigenous species, viz. *Fragaria elatior, F. vesca*, and *F. calycina;* they are to be found mostly in woods and shady places, except *elatior*, which is not so common as the others.

I will now remark on some of those that were brought early into this country: the Virginian, or Old Scarlet, was introduced from Virginia, in or about the year 1800; it is still considered a good fruit, and is cultivated in most gardens. It ripens early in the season, and possesses a fine flavour. The Alpine strawberry much resembles the Scarlet, but its fruit is more pointed; it is of a good flavour, and continues to bear till late in the season. It is a native of America. The Hautboy is also a native of America; it has long been in cultivation in this country, and is easily distinguished from all other strawberries by its foliage and fruit, which are quite distinct; the fruit is of a very peculiar flavour. The Chili strawberry was brought to Europe by M. Frazier, and planted in the Royal Garden, at Paris; from thence it was distributed to several persons in Holland, and about the year 1727 it was brought from Holland to this country, and grown in the garden of Mr. G. Clifford, of Hartecamp. This sort is known by its thick, oval, and hairy leaves. Its fruit is large, and of a white colour, and but little in esteem; in fact, in a few years, it will only be known by name, for we rarely find it in cultivation.

Having enumerated a few of the original kinds of strawberries, I will now proceed to notice the cultivation of this general favourite. In the first place, the spot on which to form the beds is to be chosen; and it should consist, if possible, of a loamy soil. If the natural soil is not of this nature, the cultivator will be well repaid by procuring a few loads of turfy maiden loam from an old pasture, for it is that which strawberries most delight in. Having chosen the ground for the beds, let it be cleared of all weeds, and then trenched to the depth of two feet and a half; after being levelled, put on a good dressing of loam or manure, but give the preference to the former; if manure is applied, the condition of the soil must be taken into consideration, for if it is already rich, too great an addition of manure will make the plants grow luxuriantly, and they will produce fewer fruit: let this dressing be then forked in just under the surface, so that the young plants may find benefit from it the first season; for the roots of strawberries are generally abundant near the surface of the soil, and many people lose the benefit of the manure they apply by burying it too deeply, which in all cases should be avoided. The ground may then be divided into beds of about four feet in breadth, leaving two feet for a path between them: when this is done, stretch a line and draw three drills in each bed, at one foot and a half apart: this will not be too much room for strong plants to grow in. The plants to be selected for planting in these beds should be from the youngest stock, and those runners that are nearest to the parent plant are to be preferred, as they are generally the strongest. Be careful to avoid taking plants from old and exhausted beds, for they will prove but little worth, and cause much disappointment. The plants may be planted at the same distance in the drills as from row to row, for I have always found that when plants have plenty of room, and are kept apart, they flourish better, and produce better crops and finer fruit than when they are suffered to grow in a thick mass. When suffered to grow in that state, the fruit soon becomes small and comparatively worthless. When the planting is completed they must be supplied with water; and in order that they may obtain the benefit of the autumnal rains, and get well settled in the soil before the winter, the operation of planting should be performed about October; for it frequently occurs that when the planting is left till later in the autumn, the plants, not having time to make fresh roots, get thrown out of the soil in the spring when the thaw commences. When the planting is left till the spring, they must be well watered in dry weather to insure success. After the plants have taken root, the next thing is to guard them against severe weather; and in order to prevent the frost from injuring them, lay some old tanner's bark between the plants: if this cannot be procured, saw-dust, the decayed leaves of trees, or the branches of trees with the leaves on them, may be laid over the beds, to prevent the frost from penetrating deep in the ground.

In the following summer the beds should be kept free from weeds, and all the runners taken off as soon as they are produced; if this is attended to, the plants will become very strong by the following autumn, whereas when this is neglected, as is often the case, and all the runners are allowed to grow till the autumn, and then pulled off, the plants are much weakened thereby; it is very necessary to attend to this point, for young plants, when allowed to produce runners the first season, never produce fruit so fine as those that have had no runners to support.

The next thing to be observed, is in autumn to clear the beds of all the decayed leaves and weeds that may have accumulated on them, and dig up the paths, burying the rubbish taken from the beds; then lay some soil over the surface of the beds, between the plants, as this will strengthen them for the following spring; if loam can be got, put it between the plants in preference to any thing else. In spring, when the danger of hard frost is over, the ground between the plants may be carefully forked up with a small fork, breaking all the clods of earth that may come to the surface; and in doing this, the loam that was put on in the autumn will be buried, and form a good dressing to the plants: then about the beginning of April, if it is possible to cover the beds with a coating of moss, it will be of much service in keeping the beds moist, and preventing the fruit from being splashed by heavy rains, which is very injurious—for when fruit has to be washed before it can go to table, it loses much of its flavour. I am convinced that where this method is practised, plenty of good fruit may be obtained; but it is requisite to have a succession of beds, for about three or four years will be found quite as long as the plants will produce fine fruit, and by keeping the ground longer under one crop, it will become quite exhausted.

Culture against Hot Walls.—There are some places where hot walls are used for producing early fruit, and where such is the case, a row of strawberries may be planted near the wall, and the heat that serves for the wall trees, will assist to bring forward an early crop of strawberries: wherever this is practised, fresh plants should be provided every season; the old soil of the border should be carefully taken out, about a spade and a half wide, and fresh soil filled in. The plants may be put in about the beginning of October, at about nine inches apart, for the object is to obtain as much fruit as possible from a limited space; the plants should not remain there after fruiting, but they may be removed to a cool part of the garden, and will produce a second crop in the autumn, by taking off all runners, and carefully watering them when requisite. If the fires are lighted about Christmas, the strawberries, will be ripe by about the end of March; or if the season is very cold, it may be the middle of April before they are fit for the table. In growing strawberries near hot walls they must be well supplied with water when requisite, for neglect of this at the time they are coming into bloom, will cause the blossoms to drop without setting their fruit: care must be taken not to wet the bloom.

Before we enter on the subject of forcing this fruit, it will be necessary to say something respecting the manner of preparing the plants, which should be done as follows: as soon as the runners become strong enough, fill a sufficient number of forty-eight sized pots, with good loamy soil, and plunge them about the beds; then lay the best of the runners into the pots, and either peg them down, or lay a stone on them,—I prefer pegging them down; attend to the watering of them in dry weather, and they will soon send out fresh roots: when they are well established in the pots, cut them from the parent plant, and let them be removed and plunged in beds close together, where they may remain till the roots fill the pots; care must be taken that they have water in dry weather. In August they may be repotted into thirty-two sized pots, using a compost of one part well-rotten manure, and three parts loam, chopped fine, but not sifted: by pursuing this method, plants may be obtained either for forcing in the house, or for the hot walls; when required for planting out they have this advantage, that they may be removed without greatly disturbing the roots.

Forcing in Houses, &c.—When about to commence forcing it will be advisable to remove the plants to a frame, pit, or greenhouse, to prepare them for going into the fruiting house, as it would not be desirable to take them at once from a cold situation to a hot one: they may be kept out as long as it is wished, and only a few brought in at a time, according to the demand; some may be kept out, so as just to precede those growing in the open ground. If the strawberries are intended to be forced in a stove amongst pines, where they cannot be plunged in the tan-bed, it will be requisite to shift the plants into larger pots in the autumn, that they may be well rooted before they are removed to the stove; if they are placed in a frame, as above noticed, in the beginning of November, where they will be sheltered from the frost, it will prepare them for the stove, into which they may be removed about December, earlier or later, depending on the time they are wanted. Those who wish to have them very early may make a slight hot bed under frames, and place the plants in, about the latter end of October; they will thus be brought early into flower, and may then be removed into the stove. When the plants are put into the stove, they must be placed as near the glass as is convenient, so that they may have the benefit of the sun and air; for when they are placed far from the glass, they get drawn up weak, and the flowers will fall without setting the fruit: it will be requisite to give them as much air as can be afforded, consistently with the keeping up the heat of the house. The plants, when placed on the shelves of the stove, must be duly supplied with water, as they will dry up rapidly; but they must not have too much, and care must be taken that the bloom or fruit is not wetted, for if the water comes in contact with the fruit after the saccharine or maturing assimilation commences, it will spoil the quality and flavour of the fruit, by filling it with aqueous matter. If the plants are properly managed they will produce fruit in February, which is as soon as they are generally wanted.

Forcing on Hotbeds.—It may be perhaps as well to mention the manner of forcing the strawberry in a common hot bed, as many individuals may not have the advantage of a stove; but if they have got frames, the object may be gained by the following plan: the plants are to be prepared as already directed, and placed in a warm situation in the beginning of October; then about the beginning of January, or sooner, if requisite, make a hot-bed the same as for cucumbers, but not quite so powerful, and as soon as the rank steam of the dung is off, lay some old rotten dung over the bed, to keep down the heat; when this becomes steady at about 75 degrees, put the plants into the frame as closely as possible, filling up between the pots with earth; they must have air given to them every day, according to the weather, and the bed must be kept at a steady heat. If it should become too hot, the pots must immediately be lifted, to prevent the roots being burned; and if the heat subsides too much, a fresh lining must be given. This bed will bring the plants into flower by the beginning of March, by which time the heat will be declining; therefore a fresh bed must be prepared on which to place the plants, so that they receive no check for want of heat; this second bed need not be so strong as the first, but on the hot dung a layer of cow-dung should be placed, about an inch and a half thick, which will help to keep down the strong heat, and prevent the roots of the plants from being scorched: having levelled the dung, place on it a layer of about two inches in thickness of loamy soil, which may remain a day or two to warm, and the plants may then be taken out of the first bed, and carefully turned out of the pots into the second, performing the operation carefully, so as not to disturb the roots. The plants may be placed at about a foot apart, and the spaces between them filled with the same kind of soil similarly warmed.

By moving the plants out of the pots into the soil, it causes them to flower stronger. They must have air and water, the same as for the plants in the stove, and if this is well attended to, there will be a good crop of fruit about April, which is about two months before they are ripe out of doors.

Retarding. — In order to retard the fruit, so as to supply the table late in the season, the plants may be planted in a shady place in the garden, and when the first flowers appear they should be plucked: if the weather is dry, water them well, and they will send out fresh trusses of flowers, and produce a late crop of fruit; but the quality of the fruit will, however, be far inferior to that which ripens in its proper season. When the Alpine strawberry is in cultivation, this need not be attended to, as they will continue to produce fruit till late in the season.

In rearing strawberries from seed, the following process can be adopted, by those who aim at the production of new varieties: — select the finest fruit, and allow this to remain on the plant till it is dead ripe; then mash it, and carefully wash out the seed from amongst the pulp, rub it well apart, and spread it out, in any suitable place, to dry: when dry, it may be sown in pans or boxes, or in a frame, being covered with the glass; when the plants are up, they will require water occasionally, and must be kept free from weeds, until they are fit to plant into beds, at six inches distance in the rows, and a foot from row to row; if every fourth row is missed it will serve as a path to get to water and weed them. If there is not time for them to get established before the winter, the planting will be better deferred till the following spring; when they produce fruit, it will readily be seen which are worth cultivating, and the remainder can be destroyed.

I will now enumerate some of the principal varieties in cultivation: —

Keen's Seedling (syn. *Keen's Black Pine*).
Old Scarlet (syn. *Scarlet Virginia*).
Roseberry (syn. *Scotch Scarlet, Aberdeen Seedling, prolific Pine*).
Black Roseberry.
Black Pitmaston.
Old Pine (syn. *Carolina*).
Myatt's British Queen.
Myatt's Pine.
American Scarlet.
Sweet Cone.
Elton Pine (syn. *Elton Seedling*).
Prolific Hautboy.
Coul, late Scarlet.
Garnstone, Scarlet.
Swainstone Seedling.
Grove End Scarlet.
Downton (syn. *Knight's Seedling*).
Black Hautbois.
Green Pine (syn. *Pine Apple, Green Alpine*).
Large Flat Hautboy.
Wilmot's Superb.

Many of the above are of little worth, but the following are all worth growing: — Keen's Seedling, Old Scarlet, Myatt's British Queen, Myatt's Pine, Elton Pine, and Swainstone Seedling. These I should choose for my own cultivation; if, however, I were pressed for space, so as to be able to grow only one or two sorts, I should give the preference to Keen's Seedling, British Queen, and Old Scarlet; the others might be added to them, if space admitted, together with the Late Scarlet, Prolific Hautboy, and the Downton. I would just observe that many growers complain that they cannot fruit Myatt's Pine well; but if they grow it in a fresh loamy soil, and renew the plants every two years, they will have no cause to complain, for it is in the age of the plants that the fault is to be found. I never found it to fruit well after the second season; but by growing it in a loamy soil, and keeping the beds young, and watering the ground in dry weather, a good crop of fine and excellent fruit has always been the result.

ON NARCISSI.

We are led to offer some remarks on this very popular tribe of plants by the inquiries of a correspondent in the present Number. Our observations, however, must be confined to their management for the flower-garden alone, as we find space becoming more valuable each month. The term popular is unquestionably due to this family, for we do not believe there is an individual connected with the management of a garden but will admit their beauty, or, to use a gardener's term, their "usefulness," in the early spring months: every one is then naturally desirous of having flowers in the parterre; and from the very limited number of plants sufficiently robust to withstand the piercing cold usual in March, and produce flowers at the same period, it is equally desirous that the very few that will do so should receive the necessary encouragement to the full development of their beauties.

The great objection to the more extended culture of Narcissi is their untidy appearance in the beds or borders through the summer, a time when everything should be in perfection or approaching it, and when, certainly, the seasonal decay they naturally exhibit would mar the efforts of the most skilful to make the adjoining spots look pleasing. This objection would be fatal, was it necessary they should remain so to disfigure the otherwise gay scene: but it is not; they may be removed, but not in the manner too frequently employed, by taking them up with the spade as soon as the blooming is over, and carrying them off to some out-of-the-way part of the garden, there to become a prey to the slug and the wireworm. This mode is attended with the worst results, for the growth of the plants is thus arrested at the time they are making their most vigorous exertions; and it must be apparent to every one at all conversant with the subject that the production of flowers in the ensuing season depends solely on the growth of the present: if the proper strength of the bulb is maintained or increased, and the necessary time is allowed to mature the accumulations, an abundant bloom may be expected, but the contrary must result from an arrested growth.

All this may be avoided, the necessary strength insured, and the bulbs removed with greater facility, whenever the space they occupy may be required, by adopting a different mode of planting. Instead of placing the roots into the bed they are intended to ornament, let them be planted in boxes, and in this manner plunged into the places set apart for them, then they may be removed at pleasure without injury. The shape and dimensions of these boxes may be varied to suit particular circumstances, but they should all be at least one foot deep, and in planting the bulbs should be kept near the surface, that there may be a sufficient depth of earth for the roots to derive their required nourishment. Square boxes would, perhaps, be preferable, as they may be more easily made, and are convenient to pack away when not in use; and if they are of several sizes, almost any figure in the flower-beds may be filled sufficiently close with them.

By adopting this mode we may very much increase our present scanty supply of early flowering plants, by introducing for a time such as have been found too delicate to bear the rough treatment we have described, and yet be enabled to remove them without prejudice when their beauty has left them. In the class of plants under consideration, in addition to the common *N. poeticus* or *N. incomparabilis*, and even *N. Pseudo-Narcissus*, now nearly the only kinds to be met with in the open air (which are grown simply because they cannot be killed), we may have any or all of the finer sorts. Nor is it with Narcissi alone that the advantages of this method of removal rests; there are many other plants, known to every gardener, which are extremely beautiful while in flower, but not at all desirable when it is over, at the same time will not bear the check consequent on hasty or premature removal; and we feel satisfied the trifling expense or additional trouble is more than met by the increased means afforded.

Ed.

LIST OF NEW PLANTS.

Orchidaceæ. — *Gynandria Monandria.*

Angræcum pellucidum. The flowers of this beautiful vanda-like plant are as delicate and transparent as if they were flakes of snow fixed by frost in the very act of melting. Each part of the lip is studded and bordered with little crystalline elevations, and the whole fabric of the blossom is as fragile as thin plates of glass. It was imported by Messrs. Loddiges from Sierra Leone, with whom it flowered in November, 1842 — *Bot. Reg.*

MELIACEÆ. — *Monadelphia Decandria.*

Turræa lobata. This very rare stove plant flowered at Chiswick House last July. His Grace the Duke of Devonshire received it from Mr. Whitfield, who collected it in Sierra Leone. The flowers have much the appearance of those of the orange, but have no scent. — *Bot. Reg.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Cattleya pumila. This pretty little species is stated in the Botanical Magazine to be a native of the Essequibo; but we cannot confirm that statement, which has probably originated in some mistake. It is most assuredly Brazilian, being No. 657. of Mr. Gardner's Herbarium, and having been imported by a French dealer from that country under the name of *C. marginata*, — a very good name, expressing the appearance of a beautiful pale border to the blood-red blotch of the lip. It should be potted in turfy heath mould, mixed with a few pieces of potsherds to keep it as porous as possible; the pot should also be well drained, and the soil considerably elevated above its rim. In cultivation the genus Cattleya differs from many orchidaceous plants; the species require very little water; even in spring when the plants are growing, water once or twice a week will be sufficient; and if syringed, it must be so slightly that no water may lodge in the axils of the leaves; but where steam can be admitted once a day it will be found much better. During summer the house should be slightly shaded in sunny weather, and the temperature allowed to rise to 80° or 85° by day, but never above 70° at night. In winter, when little or no water is required, except to keep the pseudo-bulbs from shrivelling, 65° by day and 58° at night will be sufficient. — *Bot. Reg.*

MALPIGHIACEÆ. — *Decandria Trigynia.*

Stigmaphyllon jatrophæfolium. A very pretty twining plant, with clear light green leaves, beautifully cut for the most part, though sometimes heart-shaped, and bright yellow flowers. A native of rocky places, near the fort of Salto, on the banks of the Uruguay. It is probable that it will prove suited to a greenhouse; but as it is found trailing among stones, it will require full exposure to all the sun-light that can be obtained in this climate. It will also succeed in a moist stove. — *Bot. Reg.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Ania bicornis. This is by no means a showy plant, resembling at first sight a starved specimen of *Eulophia macrostachya.* It was flowered in March, 1842, by the Rev. J. Clowes of Broughton Hall, who received it from Ceylon. It is a terrestrial plant. — *Bot. Reg.*

AMARYLLIDACEÆ. — *Hexandria Monogynia.*

Crinum variabile var. roseum. This beautiful bulb flowered in April last with J. H. Slater, Esq. of Newick Park, near Uckfield. Its leaves are very long, and its gay rosy flowers most agreeably scented. — *Bot. Reg.*

ROSACEÆ. — *Icosandria Polygynia.*

Spiræa Reevesiana. A handsome, hardy, sub-evergreen shrub, growing in any good garden soil from three to four feet high. The leaves on its young shoots are so deeply lobed as to be almost pinnatifid; but as it becomes old they lose their lobed character altogether. It forms a spreading bush, producing a copious display of white flowers in May and June. A native of China. — *Bot. Reg.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Lissochilus roseus. Although the terrestrial Orchidaceæ of hot countries are too often very inferior to the epiphytes, yet there are many exceptions to that rule, among which few are more striking than the present, which will not suffer by comparison with the Vandas, Saccolabiums, and Dendrobiums of India. It is a native of Sierra Leone, whence it was received by Mr. Rucker, with whom it flowered in February, 1843. The leaves are broad, stiff, and plaited, like a reed; the flower-stem is between three and four feet high; the petals are of the brightest rose-colour, set off with velvety-brown sepals, and a yellowish stain on the lip. — *Bot. Reg.*

CACTEÆ. — *Icosandria Monogynia.*

Cereus extensus. This appears to be a very shy flowering species, but repaying all previous trouble when in bloom by its exceedingly large and specious flowers, the petals of which are rose-coloured, heightened by the greenish yellow and red sepals. It is a repent and probably climbing species, from Trinidad, whence it was received by J. Gray, Esq. of Greenock, who flowered it in August, 1843.—*Bot. Mag.*

CONVOLVULACEÆ. — *Pentandria Monogynia.*

Ipomœa crassipes. A fine climbing plant, collected by Mr. Burke in his extended journey into the interior of Southern Africa. It was raised from seed by Mr. Jenkins, gardener to the Earl of Derby, at Knowsley, and flowered there in August, 1843. The flowers are copiously produced, and are about two inches in diameter, of a rich rosy purple. — *Bot. Mag.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Lycaste Skinneri. This plant is generally known as *Maxillaria Skinneri*, but has been lately classed by Dr. Lindley in the new genus Lycaste. "The flowers are upwards of six inches across from the tips of the lateral sepals, while the latter are nearly an inch and a half wide in the broadest part. The colours of the flowers are peculiarly delicate, the sepals being pure white, faintly tinged with crimson at the base; the petals of a more rosy hue, while the tip is almost covered with spots and streaks of the most brilliant carmine. The column again is pure white at the apex, and mottled with crimson spots at the base, while a number of woolly hairs are scattered on its under side. The habit of the plant is stately, and its growth free and vigorous, more nearly resembling *L. Deppii* than any other species." There are two or three varieties of the plant known, differing slightly in the size and colouring of the flowers. It has been brought to this country in great numbers by G. U. Skinner, Esq., after whom it is named. Its native place is Guatemala, where it is found growing on rocky and mossy banks in very moist places. — *Pax. Mag. Bot.*

TO CORRESPONDENTS.

OUR Subscribers will have observed an alteration on our Titlepage of last month. We have added to the original title in order to render it more comprehensive, and suited to our now extended range of subjects, which, as they embrace every branch of the science, required an alteration of the kind.

We trust the addition will meet the approval of our friends, and that the FLORIST'S JOURNAL will be found a useful GARDENER'S RECORD.

W. S. — There are some districts to which the Mistletoe appears to have a sort of antipathy, never being found within their limits, and in others it increases to a troublesome extent. We have seen it flourishing on the apple, the oak, the hawthorn, but particularly on the lime tree. Your best mode of proceeding would be to procure berries as soon as possible, and rub the seeds contained in them on to the *under* side of a large branch of any of the trees mentioned; they will adhere without trouble, by means of the viscid juice of the berries. You can do no more, nor can we insure you success.

We did not receive your communication until too late for insertion last month.

A Reader. — Plant your Gladiolus at once, in a light rich soil. You will find full directions for their culture at Vol. III. p. 177.

A Gardener. — Root-pruning will probably remedy the evil.

K. T. — We cannot undertake to give a monthly calendar of kitchen-gardening, but will answer any question proposed. The papers of the Regent's Park Gardeners' Society will supply first-rate information on the subject, in the form of separate treatises.

F. C. — For the southern side of the wall you describe, we recommend the following Roses: — *Noisettes:* Aimée Vibert, pure white; Jaune Desprez, buff; Smith's double yellow; Euphrosine, fawn colour; Luxembourg, bright purplish rose colour. *Bourbon:* Great Western, large red. — On the north side: — *Boursault:* Amadis, deep purplish crimson. *Bourbon:* Phœnix, reddish purple; Splendens, crimson. *Multiflora:* Grevillii or Seven Sisters, deep red, very free flowerer. *Ayrshire:* Queen of the Belgians, pure white. *Evergreen:* Félicité Perpétuelle or Belle Euphrasia, cream colour. All the above are fragrant, more or less; some of them extremely sweet.

A Subscriber from the First Number. — Brachycome iberidifolia, although usually treated as a half-hardy annual, will succeed, and frequently better, when sown in the open border; only observe to defer the sowing until the end of March or the first week in April, that the plants may be secured from late frosts.

T. Frazer. — There are several causes for the falling of Camellia buds, the most active of which are, too much heat, and a superabundance or deficiency of moisture. From the time the flower-buds are fairly set, Camellias require a steady uniform treatment, and any change then is injurious.

For the purpose of obtaining a succession of flowers, the plants should be gently forced immediately *after* blooming, the object being an early growth, and the consequent early developement of the buds.

A Subscriber, Durham. — Gesneraceous plants delight in a soil composed of half leaf-mould, and the remainder loam, peat, and silver sand, in equal quantities; these should be well mixed, and used rather rough. Shallow wide-mouthed pots are preferable for this tribe; some of them, the genus Achimenes, for instance, grow and flower infinitely better when planted in pans about three inches deep; in all cases they require a very efficient drainage. No time should be lost in potting and starting the whole of them. A shelf in the stove, or the back of a hotbed, will be the best place for them.

R. S. — The following Fuchsias will be found pretty and distinct: — Miller's Constellation, Formosa elegans, Venus Victrix, Ivery's Gem, Smith's Gigantea, Stanwelliana, Chandlerii, Tricolor, Fulgens multiflora, Smith's Queen Victoria, Defiance, and Laneii.

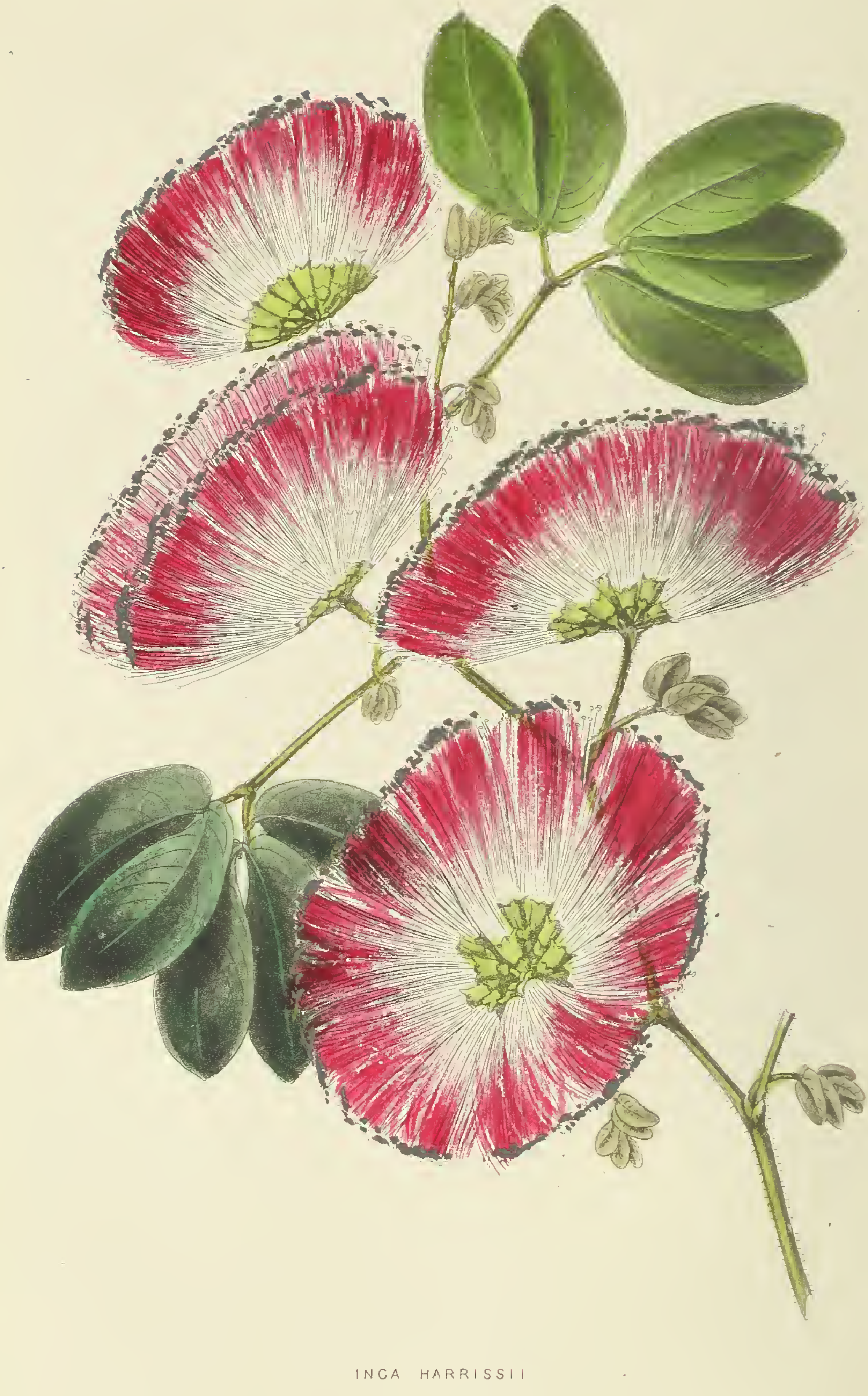
CALENDAR FOR MARCH.

STOVE. As the distinguishing feature which should be observable in plant culture, during the winter months, is that of repose, so in the spring and early part of the summer, should activity and assiduity stand out, as it were, in full relief, in the picture we may draw of a successful cultivator. This remark will prepare the way for stating, that the operations which require to be performed are multifarious; but, it must be added, that none of them must be brought about, or performed, either by rote or chance. In gardening we cannot divest one operation of its attendant satellites, and speak of it unconditionally: thus of potting (for most plants will require repotting about this time) it would be highly improper to recommend the shifting of a collection of plants, either at the beginning or towards the end of the month; it would be improper, too, to advise in any way the repotting of a whole collection at any particular time. Shift such as manifest that the operation will prove beneficial to them; but take every precaution in applying water after repotting, not to saturate the soil. It may, perhaps, be well here to describe what should be the course adopted in repotting a good and valuable plant: first, determine if it requires shifting, with a view to increase the growth, as in the case of a healthy plant, or if it stands more particularly in need of the regimen adapted for an invalid. Assuming the former, the next step is to determine the capacity of the shift, that is, whether an extensive or a limited increase of space is desirable; then ascertain what is the proper soil for each particular plant; take the pot in which it is intended to place the plant (let it be perfectly clean and dry); we will suppose it to be one of those of which sixteen in number are sold to what is technically termed a cast; over the hole in the bottom of this pot invert a thumb pot, and around this fill up with charcoal, potsherds, or bricks, broken to about an inch in size; add a layer of the rough turfy portions of the soil; then, and not till then, carefully remove the plant, by inverting the pot, supporting the ball of earth and roots by the left hand, and gently tapping the rim of the pot on the edge of the potting bench; carefully remove the crocks from the old ball, gently pat the sides with the hand, so as to loosen the points of the fibres, if they are at all matted, and then place the plant in the new pot, so that the top of the old ball of earth may be about level with the rim of the pot; fill in with the soil in a rough state, and gently, but firmly, press it down, finishing off quite level about half an inch below the rim; set the plants in a shady place, and the pots quite level; give a moderate watering, and the operation is finished. In warm weather the moisture of the atmosphere may be increased; but limit artificial heat, at night, to about 60°.

Greenhouse. Potting will be the most engrossing point in this structure likewise; it must be performed in the same manner as just described, considering also individual habits and requirements. Propagation, in all its branches, should go on briskly.

Flower-Garden. The seeds of all hardy and half hardy annual plants should now be sown in their respective stations; some in the open ground, some in pots, some in cold frames, and some in a slight heat. All kinds of summer bedding plants may be propagated, ready for use in May or June; but should be brought forward quickly. Finish the pruning of all kinds of deciduous trees and shrubs, which are not yet done. Attend particularly to spring flowers, which are perhaps the most cheering things which a garden can afford, on account of the pleasing associations generally connected with them. Shade, protect, tie up, prune, hoe, sweep, mow, roll, whenever and wherever these operations may be found to be necessary.

The amateur will find it interesting to note annually the time when his favourite plants come into flower, or when particular trees and shrubs are leafing; and a series of well-authenticated facts on points such as these would not be without their use to professional gardeners. T. M.



INGA HARRISSII

[illegible] Clare, [illegible] April 18[illegible]

THE

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INGA HARRISII.

WITH AN ILLUSTRATION.

The extensive, varied, and very important group of plants, collected into the natural order *Leguminosæ*, does not contain, in our opinion, a more delicately beautiful object than the one we have now the pleasure of noticing, our inducement to which is to be attributed to its individual loveliness, and the accommodating character of the genus. This particular species, however, is one which certainly deserves far more attention from all who delight in floral beauties than it appears to have met. It is a plant of the most easy culture, apparently capable of being made all that can be desired of a winter flowering plant; the habit is free and vigorous, the foliage neat and pleasing, and the flowers most abundantly produced and beautiful. Our figure, which is but a small sprig taken from a plant in the collection of J. H. Schröder, Esq., of Brixton, can convey but a faint idea of the appearance of a well-grown plant, from four to five feet in height, and nearly as much in diameter, when covered, as it may be had, with its very specious inflorescence.

Its history appears to be involved in obscurity: no authentic information of its introduction, or from whence obtained, being preserved, the special name was adopted in compliment to —— Harris, Esq., of Kingsbury; and we are indebted to Mr.

Beaton, of Shrubland Park, Ipswich, who had the plant under his charge at Kingsbury, for the subjoined account of it.

"The Inga Harrisii is, indeed, a fine plant, which only requires the stove when in a growing state, and as it flowers on the last year's wood, requires to be well cut in after blooming. The history of its introduction is lost. Mr. Harris bought it of Messrs. Lee, of Hammersmith, and unfortunately passed it as a new introduction to Dr. Lindley, when it flowered; it is figured in the *Bot. Reg.* as such; but I believe it to have been in the country for the last twenty years.

Doubtless it is from the more temperate parts of tropical America. It strikes with great freedom, and, like many of the same order of plants, if subjected to a high temperature after its growth is finished, is immediately attacked by the red spider. It is one of those accommodating plants that may be treated so as to have in flower for a long time in succession: say to be partially dried and set to rest by the middle or end of July, and after three months to be brought into a forcing house in succession, when it may be had in flower from Christmas to April; but treated in the ordinary way, it always flowers from the middle of January to the middle of February.

D. Beaton.

It seems to delight in an open moist soil, such as a mixture of peat and leaf mould in about equal quantities, and attention to pruning, as recommended by Mr. B., is particularly necessary, or it will soon become unsightly.

The entire genus consists of about thirty species, the geographical distribution of which is very wide; but all of them partaking, more or less, of the character of tropical plants. They are mostly pretty; but none that we are acquainted with equal our present subject.

Inga is included in class Polygamia, and order Monœcia, of Linnæus, and in the grand order Leguminosæ of the natural system.

Editor.

HORTICULTURAL ESSAYS,

By the Members of the Regent's Park Gardeners' Society.

A FEW OBSERVATIONS ON THE GARDEN PEA.

By Mr. G. Wyness.

The garden pea (*Pisum sativum*) is one of our most valuable culinary legumes, and has been cultivated in this country from time immemorial: its native country is unknown, but is generally referred to the south of Europe; it is a hardy climbing annual, with the legumes or pods commonly produced in pairs, the seeds contained within which are the part of the plant which is used.

The first object to be attended to, in the cultivation of the pea, is the proper preparation of the soil; stiff clay or very sandy soil ought to be avoided if possible, but in either of these cases, if the means are at hand, the soil ought to be tempered by admixing a portion of sand with the clay, or *vice versâ.*

The soils which are most suitable for all culinary crops are those which contain a due mixture of sand, finely pulverised clay, and carbonate of lime, with some animal or vegetable matter. With respect to carbonate of lime, and animal or vegetable matter, they are of great use in the composition of soils, as they give absorbent power to the soil without giving it tenacity; pulverisation is of the greatest importance in all soils, to give ample scope to the production of fibrous roots; for without abundance of these no plant will become vigorous, whatever may be the richness of the soil in which it is placed: the fibrous roots of plants extract the soluble matter of the soil, and the quantity taken up, therefore, will not depend alone on the quality of the soil, but in a great measure also on the number of the absorbing fibres. In proportion as the soil is pulverised these fibres are increased, and the greater quantity of matter is absorbed; consequently, the plants become more vigorous.

Water is not only necessary to plants as such, but it is essential to them, by producing an extract from the vegetable matter which the soil contains; and unless the soil, by pulverisation or otherwise, is so constituted as to retain the quantity of water requisite to take up this matter in solution, the addition of manure will be in vain: manure is useless to vegetation till it becomes dissolved in water; and it would remain useless in a state of solution, if it so abounded as to exclude air; for the fibres, or mouths, being then unable to perform their functions, would soon decay and rot off.

As the garden pea is in request every day during the season, there is generally a large portion of the kitchen garden set apart for its cultivation. It is commonly sown in rows from three to five feet apart, according to the height of the several varieties which are grown; but, unless for the early crops (for which certain situations alone are suitable, on account of warmth and shelter), I am convinced, from experience, that it is a bad practice to sow such large quantities together, as I have always observed that the outside rows are invariably more healthy, and much more productive, than the rows in the interior of the quarter; there is no doubt but that this results from their being too thickly sown, and the rows being too close together, by which they are excluded from the full action of sun and air, and the stems and lower leaves assume a sickly yellow hue, by reason of the obstruction of perspiration, and the prevention of the chemical changes effected by light on the epidermis of the leaf.

The change and elaboration of sap into pulp cannot take place in the dark, for the light of the sun is indispensable in order to the exercise of their functions; and plants that are crowded together, or are growing under the shade of trees, cannot well effect the important change of sap into the proper juices, except in small quantities; and this causes them to become sickly for want of due nourishment. We always see plants that are placed in a dark shaded situation, incline their heads towards the light: this does not arise from any sensibility or instinct in the plant, but from the natural cause of the part most exposed to light, being placed in more favourable circumstances for the conversion of the sap into pulp, which renders it heavier, firmer, and shorter than the part less exposed, whose laxness causes it to elongate and give way, through weakness.

If these general observations are correct, the importance of giving more space between the rows of peas must be at once obvious. Suppose they were to be sown in rows from twenty to thirty feet apart, I am convinced the consequence would be an improvement both in the quantity and quality of the produce; and a more free and perfect circulation of air being secured, this would in a great measure prevent the mildew, a disease to which the garden pea is very subject in confined situations: the intermediate spaces between the rows of peas could be cropped with the other common culinary vegetables, and these would be benefited, rather than otherwise, by the partial shade derived from the peas.

It is a well-known fact that the excrementitious slime from peas acts as a poison to crops of peas which may follow, but is food for plants of different habits and properties; and so it is with all other vegetable productions: hence the utility of rotation cropping. If the mode of culture were to be pursued which I have recommended, the object sought by rotation cropping would in a great measure be obtained; and by leaving the spaces intended for rows of peas, the other parts of the ground could be all under crop, which would not be such an eyesore as to see a large piece of ground lying idle until the last sowing of peas. I need not say lying idle, for I have often observed a very thriving crop of weeds, seeding in all their glory, and preparing the germs of a progeny for years to come, and thereby increasing the labour of the gardener, who has generally more to do than he can well accomplish.

The varieties of the garden pea are numerous, and differ materially in their mode of growth, quality, productiveness, and time of coming into use. I have made a selection of a few of the varieties in most common cultivation, which I will give with their synonymes:—

1. EARLY FRAME. Syn. *True early Frame; Early dwarf Frame; Early May; Very early Frame; Perkins' early Frame; Early nimble; Mason's double-blossomed; Double dwarf Frame; Early Nicholas; Young's very early; Superfine double early; Russell's fine early; Dwarf Abong; Master's Hotspur; Early Hotspur; Golden Hotspur.*—This variety is generally sown for the first crop, as it is more hardy than some of the finer varieties, and comes sooner into use; it grows between four and five feet high, is a moderate bearer, and of good quality.

2. EARLY MAY SUGAR. This variety grows between eighteen inches and two feet high; the pods are large, broad, and well filled; it is an abundant bearer, of excellent quality, and comes into use about the same time as the Early Frame.

3. Bishop's Dwarf Prolific. This variety grows about one foot high, with the pods short, but well filled; it is an abundant bearer, of good quality, and comes into use about a week later than the Early Frame: this is one of the best sorts for early forcing, as it takes up but little room.

4. Early Charlton. Syn. *Early sugar Frame; Earliest double-blossomed; Golden Charlton; Early Nicholas Hotspur; Wrenche's early Hotspur; Nimble Tailor; Brussels early blossomed; Essex reading; Twesly dwarf; Golden Hotspur.* — This grows between five and six feet high, is very strong, and has the joints very distant; it is an abundant bearer, of excellent quality; if sown at the same time as the Early Frame, it will come into use fully a fortnight later than that variety.

5. Blue Prussian. Syn. *Nain royal; Nain vert petit; Fine long-podded dwarf; Green Prussian; Blue Union; Early Dutch green; Dwarf blue Prussian; Early green.* — This grows between three and four feet high, is a most prolific bearer, and of excellent quality.

6. Blue Imperial. Syn. *Tall green Imperial; Dwarf Sabre; Dwarf green Imperial; Dwarf blue Imperial; Dwarf blue prolific; Dwarf blue Marrow; New Sabre; Blue Sabre; Scimetar; New improved dwarf Imperial.* — This variety grows between three and four feet high, is very strong, with short joints; the pods are large, dark green, and well filled; it is an abundant bearer, and of excellent quality, and comes into use the same time as the Blue Prussian, with which variety it is often confounded, but it is of a more robust habit, and continues a shorter time in bearing.

7. Branching Marrow. Syn. *New dwarf Pea; Prolific Isle de France.* — This grows between eighteen inches and two feet high, very strong, with short joints; the pods are much larger than any other of the dwarf peas, and fill well; it is an abundant bearer, of excellent quality, and is the earliest of the Marrow Peas.

8. Dwarf Green Marrow. Syn. *Early green Marrow; New extra green Marrow; Royal dwarf Marrow; Waterloo; New Wellington; New early green Marrow; Large American green Marrowfat; Master's Imperial Marrowfat.* — This grows between four and five feet high; the pods are large and well filled; it is an abundant bearer, and is of excellent quality.

9. KNIGHT'S DWARF MARROW. Syn. *Knight's new Dwarf.* — This grows between three and four feet high, strong and branching, with short joints: it is an abundant bearer, and of excellent quality; the seeds are very much wrinkled.

10. KNIGHT'S TALL MARROW. Syn. *Knight's late; Pois vide.* — This grows between six and seven feet high; the pods are large, broad, and well filled; it is very prolific, and of excellent quality; the seeds are large, and very much wrinkled.

11. TALL BLUE IMPERIAL. Syn. *New tall Imperial; Blue Union; Green Nonpareil; Tall Prussian; Spanish Patriot.*— This is a very late variety, growing between six and seven feet high, very strong, with short joints, and branches much; the pods are very large, and fill well: it is a good bearer, and of excellent quality.

12. DWARF SUGAR. Syn. *Ledman's Dwarf.*—This variety is of very strong growth, between three and four feet high, with short joints; the pods are of a middling size, roundish, and well filled: it is a good bearer, and of good quality, but very late.

13. NEW TAMARIND. — This variety grows between two and three feet high, strong and branching, with very short joints; the pods are very large, remarkably long, roundish, and fill well: it is an abundant bearer, and of excellent quality. This is a fine pea, and ought to be cultivated in every garden: it is very late; the seeds are white and large.

There is a new variety of pea sent out this spring by the Messrs. Cormack and Co., Nurserymen, New Cross. If it prove true to its reputed character, it certainly ought to be placed first; but as I have not had an opportunity of proving its merits, I will give their description of it. They call it the Prince Albert Pea, and say it is one of the earliest and best sorts extant; in proof thereof, a quantity put into the open ground on the 14th March (1842) was ready for use the 25th of April following, being only forty-two days from the time of sowing to the date of gathering for the table (?): it is moreover a good bearer, of excellent flavour, and highly advantageous for early forcing. They also recommend another new variety, called the British Queen, a wrinkled marrow, larger and more productive than any of Knight's varieties.

I might enumerate a score more varieties; but with a selection from the above, and convenience to grow them, with due attention to successive sowings, a supply may be kept up from May till October.

Buckingham Palace Gardens.

ON THE PROTECTION OF SUMMER BEDDING PLANTS THROUGH THE WINTER;

WITH A SELECT LIST OF PLANTS ADAPTED FOR THE FLOWER GARDEN.

By Mr. W. Ansell.

The month of September, or as early as possible in October, is the best time for placing half-hardy plants under protection ; for not only the coldness, but also the dampness of the weather, as it usually occurs after this period of the year, is very hurtful to delicate plants in pots, when they are fully exposed. The influence which the state of the weather has on these kinds of plants is very great : if they are exposed, the pots become saturated with water ; the consequence of this is, that the roots perish, and the plants are, therefore, rendered sickly, and frequently perish on the arrival of winter.

In providing a pit for their protection through the inclement season of winter, a place should be selected for it, which may be rendered as dry as possible, and where at the same time it would be sheltered from the north winds ; it should be so constructed, that the plants would be elevated above the surface of the exterior ground, and not sunk beneath it, as is frequently the case, and this will provide for the more ready emission of dampness and free circulation of air. The bottom should be concreted to the thickness of six inches, and the surface should form an inclined plane towards the back, for the damp will more readily escape there ; a channel should be made to extend the whole length of the pit, connected with a small aperture through the wall at the lowest extremity ; above the concrete put on a layer of coarse gravel or stones, regulating its thickness by the height of the plants ; and on the top of this place a thin layer of coal-ashes. In making these arrangements, always bear in mind that plants require to be placed near the glass, not only to secure a due share of light, but also to secure an additional advantage of no small importance, — viz. the drying up the damp, from the effects of which far more plants perish during the winter, than from any other cause.

In order to exclude the frost, make up a thick casing quite to the top, and all round the pit: this may be formed of dry leaves and fern, or any other dry litter; it will be necessary to provide some portable covering to prevent the wet from getting into the casing; and the bottom should be rendered available for the egress of moisture from the wall of the pit. The best covering for the glass is dry rubbish, hay, and a mat on the top of that to keep it dry, and prevent its being scattered by the wind: these materials should always be placed under cover, when it is likely to be wet. Particular attention should be paid to having the pits uncovered whenever the weather will admit; and also to give air copiously on every favourable opportunity.

The whole of the plants in the accompanying list may be preserved in the pits or frames, with the exception of those marked with an (*); the latter require to be placed on a dry airy shelf in a greenhouse. The Tigridias and Gladiolus, which seldom ripen their bulbs in this climate, should be carefully taken up after the first frost, and be either potted or laid by in sand, under the stage of the greenhouse, or in any sufficiently dry position secure from frost.

SELECT LIST OF PLANTS ADAPTED FOR BEDDING OUT.

Name.	Colour.	Height in feet.	Native country.	Time of flowering.
Alonsoa acutifolia	scarlet	2½	Peru	May to Oct.
incisifolia	—	2	Chili	——
linearis	—	2	Peru	——
Agathæa cœlestis	blue	2	C. G. H.	——
Anagallis indica	—	1	Nepal	May to Sept.
Monelli	—	1	Italy	——
cærulea grandiflora	—	1½	Gard. hyb.	——
Marryattæ	flesh	1	—	——
speciosa	scarlet	1½	—	——
Philipsii	blue	1	—	——
Bouvardia triphylla	scarlet	2	Mexico	May to Oct.
Calceolaria rugosa	yellow	2	Chili	April to Nov.
angustifolia	—	2	—	——
thyrsiflora	—	1½	—	——
viscosissima	—	2	Gard. hyb.	——
salvifolia	—	2	—	——
Stewartii	spotted	1½	—	——
Standishii	—	2	—	——

Name.	Colour.	Height in feet.	Native country.	Time of flowering.
Cælestina ageratoides	light blue	3	New Spain	June to Oct.
Coreopsis diversifolia	yellow	2	N. America	May to Oct.
Fuchsia globosa	crimson	2	Gard. hyb.	——
pumila	—	½	—	——
Brewsterii	—	2	—	——
Dropmoreana	—	1½	—	——
Gladiolus psittacinus	orange	3	Natal river	July to Sept.
cardinalis	crimson	2½	C. G. H.	——
byzantinus	purple	2	Turkey	——
Gaillardia picta	dark red	2	Louisiana	May to Oct.
Gazania rigens	orange	1	C. G. H.	——
pavonia	yellow	1	—	——
uniflora	—	1	—	——
Heliotropium peruvianum	lilac	2	Peru	——
Isotoma axillaris	blue	½	N. Holland	——
Lobelia unidentata	violet	½	C. G. H.	——
speciosa	purple	3	Gard. hyb.	——
fulgens	scarlet	2	Mexico	——
splendens	—	2	—	——
propinqua	—	4	Gard. hyb.	——
ignea	—	3	—	——
syphilitica	blue	2	Virginia	——
bicolor	—	1	C. G. H.	——
Erinus	—	½	—	——
gracilis	—	½	N. Holland	——
ramosa	—	1	—	——
decumbens	—	½	C. G. H.	——
Lantana Sellowii	purple	1	Montevideo	June to Oct.
Mimulus roseus	rose	1½	California	——
roseo-cardinalis	deep rose	3	Gard. hyb.	——
Harrisonianus	—	2	—	——
Mesembryanthemum, several varieties.				
Mahernia incisa	scarlet	½	C. G. H.	——
Nierembergia calycina	white	½	Uraguay	——
gracilis	—	½	—	——
filicaulis	lilac	1	B. Ayres	——
Oxalis floribunda	rose	½	Brazil	May to Oct.
Bowiei	—	1	C. G. H.	——
Pelargonium, Frogmore Scarlet		1 to 2	Gard. hyb.	
Cooper's nova pumila		1 to 2	—	
Frost's compactum		2 to 3	—	
superba		2 to 3	—	
Oldaker's Lady Sefton		2 to 3	—	
Earl Grey		2 to 3	—	
pink nosegay		2 to 3	—	
scarlet nosegay		2 to 3	—	
Daveyanum		2 to 3	—	
Yeatmanianum grandiflorum		1	—	
Prince of Orange		1	—	
Petunia nyctaginiflora	white	2	S. America	——
violacea	rose purple	2	B. Ayres	——
prænitens	red	2	Gard. hyb.	——
rosea	—	2	—	——

Name.	Colour.	Height in feet.	Native country.	Time of flowering.
Petunia violacea superba	red	4	Gard. hyb.	May to Oct.
grandis	—	4	—	—
Pentstemon gentianoides	deep rose	2	Mexico	June to Oct.
coccinea	scarlet	2	—	—
Ruellia formosa	—	1	Brazil	June to Sept.
Salvia fulgens	—	4	Mexico	May to Oct.
splendens	—	4	—	—
pseudo-coccinea	—	3	S. America	—
Grahamii	purple	3	Mexico	—
dulcis	pink	3	—	—
chamædryoides	blue	1	—	—
patens	—	4	—	—
Selago Gillii	red	1	S. Africa	—
fasciculata	light blue	2	C. G. H.	—
Senecio elegans plenus ruber	red	1	—	—
albus	white	1	—	—
Tournefortia heliotropioides	lilac	1	B. Ayres	—
Tigridia pavonia	orange	1	Mexico	May to Sept.
conchiflora	yellow	1	—	—
Tropæolum minus flore pleno	scarlet	1½	Peru	June to Sept.
majus flore pleno	orange	2	—	—
Verbena Melindres	scarlet	½	B. Ayres	May to Oct.
superba	—	1	Gard. hyb.	—
major	—	1	—	—
Tweedieana	crimson	1	Brazil	—
incisa	pink	2	Panama	—
Drummondii	lilac	2	Texas	—
teucrioides	blush	2	S. America	—
rosea	rose	2	Gard. hyb.	—
carnea	flesh	2	—	—
venosa	purple	2	B. Ayres	—

GARDEN HYBRIDS.

Name.	Colour.	Name.	Colour.
Verbena maxima	scarlet.	Verbena purpurea	purple.
formosa	—	picta	—
Hislopeana	—	Charlwoodii	—
splendens	—	unique	—
Grenvillii	rose.	Burleyana	white and pink.
Buistii	—	Antwerpensis	—
lateritia	brick red.	British Queen	white.

Royal Botanic Gardens, Regent's Park, Nov. 2. 1843.

LIST OF ORCHIDEÆ.

(*Continued from page* 44.)

158. *Eria pubescens.* (Derived from the flowers being woolly.) Plant trailing, with swollen bulbous stems, leaves placed near the apex, mostly in sevens; one foot long, and better than one inch broad; flowers in a short upright raceme, of a pale yellowish white. This species is better adapted for wood-work than for pot cultivation, on account of its trailing habit; it requires a liberal supply of water while growing, with a temperature of 65° to 70°. — *A Native of India.*

159. *Eria stellata.* (Derived from a star.) Plant with pseudo-bulbs; leaves eighteen inches long; flower spike upwards of two feet long, covered with dirty white flowers bearing a resemblance to stars: it is a plant of no beauty, but rather fragrant, and will grow in any soil, providing moisture is given to it freely; the same temperature will do for this as for the above. — *A Native of India.*

160. *Eria rosea.* (Derived from being rose-coloured.) Plant pseudo-bulbous, bulbs about one inch long; leaves single, one foot long and one inch broad, rather crisp and upright; its flowers are produced on a short spike, of a whitish colour slightly tinged with rose, with a mark of yellow in the labellum. This species does best with pot cultivation, in a mixture of sphagnum and rotten leaves, with the same temperature as the others. — *A Native of China.*

161. *Eria bipunctata.* (Derived from being two-spotted.) This plant is more worthy of cultivation than the others, and its flowers are rather larger and spotted; it requires pot cultivation, with the same treatment and temperature as the others. — *A Native of India.*

162. *Eria convallarioides.* (Solomon's seal-like.) This plant is destitute of bulbs; its stems are from one foot to eighteen inches long; leaves alternately towards the summit of the stem; the flowers are produced on the under-side, from which it takes its specific name; it is of no beauty, but rather singular in appearance when in flower: the same treatment and temperature will do as for the others. — *A Native of India.* This genus comprises upwards of thirty species: they are not very beautiful, but are still valuable for their fragrance; as they are of so free a growth, any house will do for them, providing it gets no lower than 60°, but should be liberally supplied with water, and an occasional syringing over-head, which will greatly increase their growth, and in their resting season they do not require to be kept so dry as other genera do.

163. *Fernandezia elegans.* Plant destitute of bulbs; stems from six to ten inches long; leaves alternate, placed close together, of a light green colour: it is very similar in form to a plait of straw; flowers are produced in clusters from the joints of the stem near the summit, and are of a pale yellow, slightly spotted with brown in the centre of the flower. It will do either in a pot, or hung up, but should in either case be placed in a cool and airy part of the house. It does not require much water, with a temperature of 65° to 70°. — *A Native of Trinidad.*

164. *Fernandezia acuta.* (Pointed.) This plant is very similar to the above, both as regards the growth and flowering, except that it is not so free a flowerer. The same treatment and temperature will also do for it. — *A Native of Trinidad.*

165. *Fernandezia lunata.* (Moon-shaped.) This species bears a great resemblance to the others, particularly in the growth; the flowers are a

little different both in point of form and marking. The same treatment and temperature will do for this as for the others. — *A Native of Brazil.*

166. *Fernandezia robusta.* (Derived from its strong growing.) This plant is a deal stronger in growth than the others; the stems generally exceed one foot; the leaves are larger, and not so compact; the flowers have very little difference, only a little larger. It will succeed better with pot culture than the others, in a mixture of sphagnum, turfy peat, and a little charcoal; it does not require much water. This genus, I believe, comprises no more than four species, all partaking of the same character both in growth and flowering. From the want of air while growing, they are often found in a sickly condition, and when once brought to that point, can seldom be recovered: a good drainage is of much service to this genus, as their roots are rather tender, and apt to rot if water remains in a stagnant state about them.

167. *Galeandra Bauerii.* Plant pseudo-bulbous, bulbs about three inches long and rather better than one inch broad, tapering a little towards the summit; leaves in pairs, eight inches long, of a pale green colour; flowers produced singly on a stem four inches long, intermixed with various colours. This species is rather of a delicate nature, and should for that reason be grown in a basket in a mixture of sphagnum, turfy peat, and rotten wood, with but a moderate supply of water while growing. A temperature of 70° to 75° is required to grow it to perfection. — *A Native of French Guiana.*

168. *Galeandra Devonianum.* This plant is very different to the other in habit, as it produces bulbous stems from one foot to eighteen inches long; its leaves are alternate up them, of a lanceolate shape. It is a valuable species, but rather a difficult one to grow; it requires pot culture, with a good drainage, and a mixture of sphagnum, turfy peat, with a little half-rotten leaves, and occasionally syringing it during its growth; its temperature should be the same as for the other; this genus contains only two species at present; both of them should be in every collection. — *A Native of Guiana.*

169. *Govenia superba.* Plant pseudo-bulbous, bulbs round, and sending the leaves up from the centre of each, nearly two feet long, of a purplish colour; flower spike better than one foot long. This species, as well as the rest of the genus, which is composed of six species, requires pot culture, in a mixture of sphagnum, turfy loam, and rotten leaves in equal parts, and a liberal supply of water while growing; when in a dormant state, they require but little.

John Henshall, K—p—y.

(*To be continued.*)

THE GARDENING INTERESTS.

Nothing short of infatuation can lead the professor of any science to believe that his individual interests are separable or distinct from the interests of the science he pursues. It is true there are some so blinded by self-love, who, if they happen to stumble upon a useful discovery, assume an air of mystery, and endeavour to preserve the knowledge of it exclusively to themselves, thinking thus to secure all the advantages — a confined and utterly erroneous idea, for knowledge, like riches, is only profitable when in circulation, and the wider its influence is extended, the greater are its returns. So also a man may (and there are many who do) trust entirely to his own resources, and after persevering with all the energy and zeal he possesses for a lengthened period, find, on comparing notes, that much he before deemed rapid progression, was at the best but stationary, if not retrograde.

To no science do these axioms apply with greater force than to Horticulture, an art so dependent on an accumulation of evidence from so many and such opposite sources, and whose professors or followers derive their best information one from another, according to the result of practices, beneficial or injurious. Hence it appears, the true interest of Horticulture depend very much on an extensive dissemination of the means and results occurring in its practice.

We had a thought, on commencing this paper, of noticing the interests of the gardener, distinct from those of the science; but they are so amalgamated, so essentially the same, as to preclude the possibility of distinguishing or separating: individual interests will depend mainly on the amount of skill the cultivator can bring to bear on the subjects of his charge, and this it must be understood is entirely acquired skill. There is no spontaneous effusion of the mind or fancy in gardening affairs: all knowledge of them is derived from assiduous observation and attention to the sayings and doings of others; and the means by which this knowledge is to be obtained by an individual, are precisely the same as those for the whole body, proving the interests of one gardener to be identified with the interests of the whole, or, as it is usually denominated, the science.

If then the prospects of a young man embracing the profession, depend so entirely on this accumulation of results, on which he has to build his future skill, how important it is that he should well consider and ascertain the best means of arriving at the required information; and this it is we are desirous of showing.

The importance of the inquiry is not, however, confined to the mere tyro: it is equally necessary that those who have pursued it for years to their advantage should still continue the onward pressure; in a cause so rapidly advancing as is this, no one of its professors, at all alive to their own or its interests, must remain stationary: there is still and ever will be much to be learned.

Books, indeed, are to Horticulture, as to every other matter connected with civilised life—the vital principle; but what we would cordially recommend to the notice of all concerned, is the highly beneficial effects resulting from the formation of societies among gardeners for mutual instruction: here by contributing, each according to their several capacities, all are informed, enlightened, and benefited; and here too, those feelings of cordiality and brotherly love, so honourable to human nature, are engendered and preserved, esteem and emulation going hand in hand. But we need not enlarge on the benefits: the question is gaining the attention it deserves, and was it necessary, we could point for confirmation to the Regent's Park Gardeners' Society, where in the short space of two years so much has been effected by the vigilance and perseverance of the officers and members, that a library has been commenced, and the foundation of an extensive herbarium formed: the value of the information received by each member may be estimated by the articles which appear in our pages—sterling practical knowledge.

But it is not here we would stop: we desire to see the benefits increased to an incalculable extent. By uniting these societies, that is, wherever a society is established, let it immediately begin a correspondence with all others previously established, and thus arrangements may be made that will bring the essays or other productions of the aggregate body before each individual of the respective societies: there is nothing difficult in the working of this, and we trust to see it speedily carried into effect. The society already named entertain the same view of the matter, and, we believe, are prepared to open a correspondence with any and all other societies professing the same beneficial end; and we can readily imagine in it, from its metropolitan position, the embryo of a great and important movement for the elevation of gardening and gardeners. It may be asked, what will be the especial advantages accruing from an union. We need only mention one, beside the very apparent increase of information each society would derive from being put in possession of the papers of all the corresponding members—we advert to the library, the expense of which, utterly precluding anything more than a mere selection in the hands of a single association, would by an union admit of being formed on an extensive scale, to the advantage of all subscribing. The necessity and expense of books are evils severely felt by gardeners; but here is a method relieving him from much of the evil, and retaining all the good; indeed, we feel so well assured of the successful working of this mode of increasing the spread of knowledge among gardeners, that we again earnestly recommend it to the attention of all engaged in the delightful pursuit.

Ed.

LIST OF NEW PLANTS.

Orchidaceæ. — *Gynandria Monandria.*

Bolbophyllum macranthum. This singular plant was imported by Messrs. Loddiges from Singapore, and is closely allied to both *B. leopardinum* and *affine.* From each it differs in its much more fleshy and larger flowers, whose stalk is considerably longer than the petiole.

The flowers appear in March, and expand so flat, that they seem as if they had been pressed between paper. In the centre they are a pale lemon colour, but towards the tips they are much mottled with dark chocolate-coloured spots. — *Bot. Reg.*

Nelumbiaceæ. — *Polyadelphia Polygynia.*

Nelumbium caspicum A very splendid stove aquatic from the mouth of the Volga, near Astrachan, producing very large flowers, the petals of which are obovate, white, slightly tipped with deep rose at the extremities, while the carpels (nine in number) and filaments are bright yellow. It was flowered by Messrs. Rollison, of Tooting, in August, 1843.

The plant requires to be kept dry during winter. Before putting it into the water, which ought to be done about the beginning of February, it should be re-potted in sandy loam, mixed with pieces of sandstone to act on the same principle as drainage, for the water in which it is grown requires to be renewed once or twice a week, and should never be allowed (especially in summer) to be below 80°. About the end of October, when the leaves begin to decay, the pot should be lifted out of the water and dried off gradually: as the soil becomes dry it will crack, or leave the sides of the pot, which should be filled up with sand, in order to cover many roots that would otherwise be exposed. — *Bot. Reg.*

Combretaceæ. — *Decandria Monogynia.*

Quisqualis sinensis. This plant was exhibited before the Horticultural Society in July, 1841, by Messrs. Lucombe, Pince, and Co. of Exeter, who stated that it is a more compact grower than the old *Q. indica,* and therefore more desirable for cultivation in pots. It manifestly differs in its smoother leaves and branches, and in the larger size of its flowers, which are moreover of a much deeper rose colour.—*Bot. Reg.*

Berberaceæ.—*Hexandria Monogynia.*

Berberis pallida. This plant, in its native country, forms an evergreen shrub from five to six feet high, and is found but sparingly on mountains near Cardonal and Zimapan in Mexico. Mr. Hartweg, who introduced it, also met with it near the hot springs of Atotonilco el Grande, but nowhere in any quantity.

That gentleman informs us, that it is easily distinguished by its dry hard leaves and pale yellow flowers. In our gardens its appearance is vastly improved, and it will probably prove as handsome as others. It grows freely when potted in a mixture of sandy loam and leaf mould, to which is added a small portion of rough bone dust. Being at present extremely rare, it has not been tried on the open border; but the appearance of the plant leads us to suppose that it may be at least as hardy as *B. fascicularis.* Up to the present time it has been kept in a cold pit in the garden of the Horticultural Society. — *Bot. Reg.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Bromheadia palustris. — In appearance this plant has the aspect of Epidendrum elongatum, and, like it, has the whole of the upper part of the stem provided with closely pressed distant sheaths instead of leaves, on which the spike of flowers is arranged. The latter is very rigid, between two and three inches long, regularly zig-zag, with a short hard tooth-like bract at each bend. The flowers are about an inch long, white, and rather drooping; spreading quite open. The labellum, in which alone any colour resides, is straw-coloured on the middle lobe, and violet at the tips of the lateral lobes; along the middle, as far as the separation of the lobes, it is convex, and covered with purple down, while the disk of the middle lobe is broken up into yellow granulations. — *Bot. Reg.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Houlletia Brocklehurstiana. According to Dr. Lindley, in the Sertum Orchidaceum, Mr. Wanklyn, of Crumpsall House, Manchester, had the credit of originally introducing this noble plant from the Brazils. It was first flowered by Mr. Brocklehurst, of the Fence, Macclesfield, after whom it is called. The generic name was given to a nearly allied, if not the same, species, by M. A. Brongniart, in honour of M. Houllet, a French gardener, who introduced the original species to the Jardin des Plantes at Paris, from the Corcovado of Brazil.

The pseudo-bulbs are rather small for the size of the plant, ovate, deeply furrowed, and more or less clothed with large lacerated scales; upon the top of this bulb is, as it were, articulated, a large plaited broadly lanceolate membraneous leaf, borne on a long cylindrical footstalk. The flower stem proceeding from the base of the bulb rises above two feet high, including the inflorescence, which forms a spike or raceme of six to eight large handsome blossoms. Petals and sepals nearly uniform, elliptic-ovate, of a rich fulvous colour, spotted all over, within and without, paler on the outside; lip of a singular form, having a narrow and rather saccate base, with two long subulate horns, directed upwards towards the column, and which may be considered two lateral lobes, while the intermediate or terminal lobe is triangular. The colour of the lip is variable, yellow spotted with deep purple; sometimes the terminal lobe is almost wholly purple. — *Bot. Mag.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Disa grandiflora. A very beautiful terrestrial orchidaceous plant, from the Cape of Good Hope, with large scarlet and yellow flowers, resembling somewhat those of Tigridia. It may be grown in a light greenhouse, but is extremely difficult to keep in a blooming state. — *Bot. Mag.*

LEGUMINOSÆ. — *Diadelphia Decandria.*

Phaseolus lobatus. This plant was raised from seeds sent by Mr. Tweedie, from Buenos Ayres to the Glasnevin Botanic Gardens, where it flowered in September, 1843. It is a twining plant, bearing deeply-lobed foliage, and short yet dense racemes of yellow pea-shaped flowers, the keel of which is curiously twisted in a spiral manner, like the shell of the Helix or snail. — *Bot. Mag.*

TRIDACEÆ. — *Triandria Monogynia.*

Gladiolus gandiensis. Has probably received its name from having come from Ghent to this country. It is evidently of hybrid extraction, and *G. communis* is most likely one of its parents. To that species, indeed, it bears much resemblance, but has more of the open flowers of *G. pudibundus* with a slight indication of its tints. Whatever may have been its origin, it is certainly a noble plant, and flowers in great abundance. — *Pax. Mag. Bot.*

[The habit of the plant and colour of the flowers remind us more of an improved *G. psittacinus* than either of the species mentioned.—ED. F. J.]

ONAGRACEÆ. — *Octandria Monogynia.*

Fuchsia (hybrid vars.), *Attraction*, *President*, and *Colossus.* Mr. John Standish, nurseryman, of Bagshot, obtained the above kinds in the following manner. In 1841, he raised a number of seedlings from Thomson's *Formosa elegans*, crossed by *Corymbiflora;* they were very pretty and free growers, but not particularly different from the hybrids of *F. fulgens*, except that they seeded abundantly, which those hybrids rarely do. Having saved some of those seeds without any fertilising, Mr. Standish was astonished to find, in 1843, that the produce had acquired so much larger leaves and flowers as to be nearly twice the size. They are more soft-wooded than the hybrids of *fulgens*, and exhibit the interesting fact, that instead of degenerating when propagated by seed without being fertilised, they improve to a very great degree. *Attraction* has the pleasing aspect of the old *F. globosa*, with longer and more acute as well as reflexed sepals, and immensely larger corollas, which are of the richest purple. *President* is a longer and bolder flower, more in the way of *F. Standishii*, with a much better corolla. *Colossus* has a shorter tube, less reflexed sepals, and a fine purple (crimson) corolla. —*Pax. Mag. Bot.*

TO CORRESPONDENTS.

SIR, — The very different periods through which seeds preserve their vitality has long been a matter of interest to me; can you give me an idea as to what it may be attributed, that one kind of seed may be preserved good for almost an indefinite time, while another kind becomes useless in two years.— AN ADMIRER.

One of the causes for this difference exists in the formation of the seed itself: those kinds having a thick woody epidermis resist the influence of atmospheric changes, than which nothing destroys the vitality of seeds sooner, while those having only a thin soft skin are affected by these fluctuations which act by exciting the vital energy of the seed, and then from want of aliment it necessarily perishes. For the preservation of seeds it is necessary that they should be placed in a situation as remote from these changes as possible; glass bottles securely sealed, or tin boxes wrapped in some material impervious to air, are perhaps the best means. Last season we raised plants from seeds gathered in China fifteen years before; these had been kept in small porcelain vases filled tightly with a substance resembling fine bone-dust or pounce, the necks of the vessels being covered with oiled paper.

S. X. — You will find hand-glasses most convenient for protecting Auriculas while in bloom; they require plenty of air and light, and to be carefully preserved from rain, wind, and sun.

CANTAB. — It is too late to do any thing with Ranunculuses this season; remind us of the list next autumn, and you shall have a good one. You may fill the bed with German Asters, they will be useful for the September exhibitions.

F. Thompson. — We have repeatedly expressed our opinion that Guano is not suited to pot cultivation: it is too strong, and even when reduced is a dangerous plaything; use good fresh earths, and you will not need it, or if you must have artificial manures try bone-dust or charcoal.

LITERARY NOTICE.

Theory and Practice applied to the Cultivation of the Cucumber in the Winter Season. A treatise by Mr. T. Moore, of the Royal Botanic Gardens, Regent's Park, pp. 60. London, Groombridge.

This subject has engaged the attention of many writers, and has been given to the public in various forms, but never yet in a manner we could so cordially approve as the present.

The prevailing fault, in works of this description, is an empirical ordering of the detail, making success to depend entirely on mere manual operations; or a sort of attempt to arrive at effects without considering the causes. Now, for a man to understand a subject thoroughly, so as to have a reason for all he does, it is requisite that he should be able to trace all results, whether of good culture or failure, to the causes from which they arise; and to impart this knowledge is the groundwork of the treatise before us, in which Mr. Moore has very clearly shown the necessity of studying the theory, to insure the desired results in practice. The work contains much information under the several headings; viz. Structures, Propagation, General Principles of Culture, Soil, Application of Water, Temperature, Admission of Air, &c., and a chapter on Persian Melons. A very neat engraving of a cucumber house is given in illustration of the chapter on Structures, which possesses much original merit.

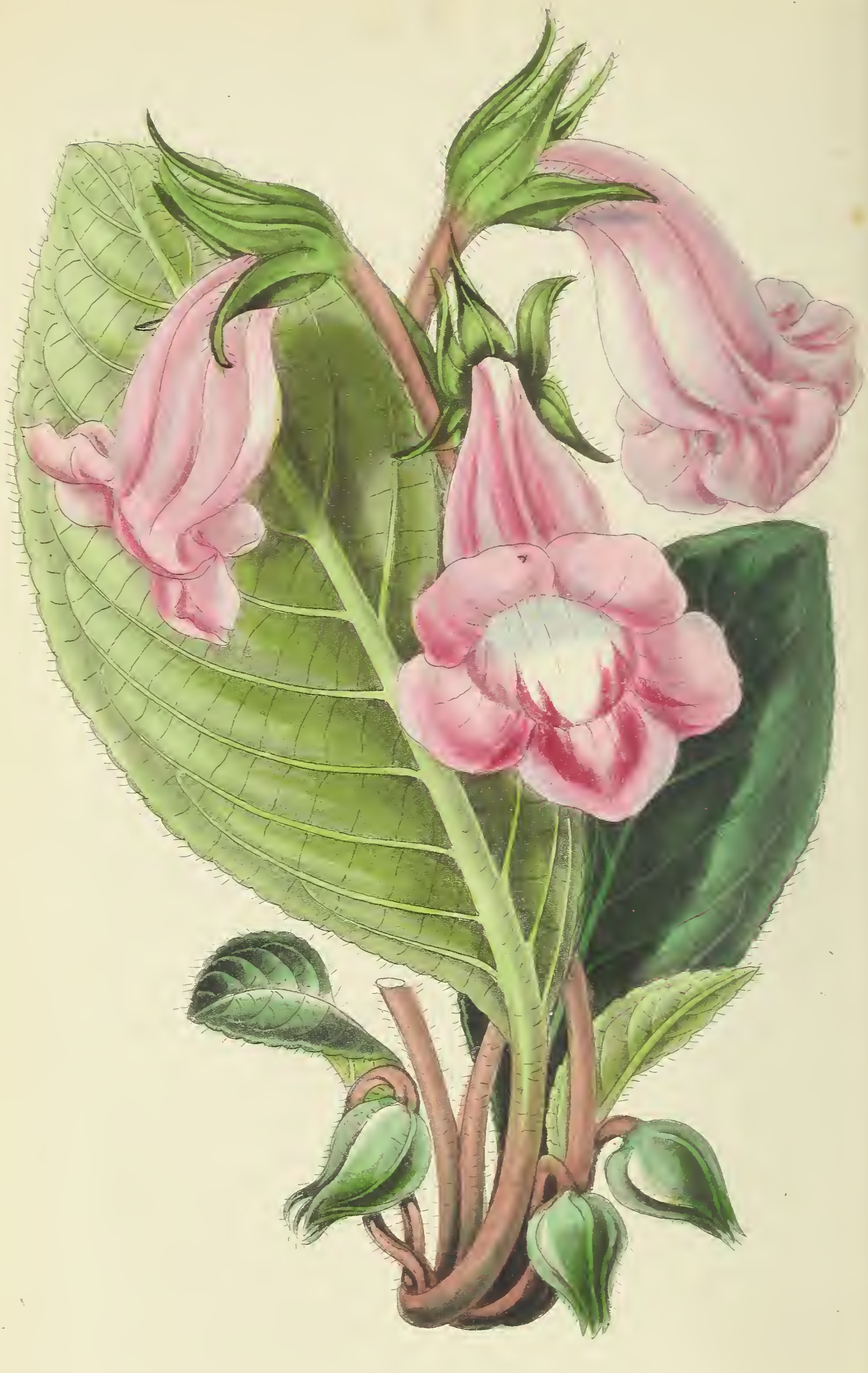
The matter is very ably and modestly written, and is especially addressed to young gardeners; but we do not hesitate to say it should be read by all.

CALENDAR FOR APRIL.

Stove. It is probable that the remarks made last month will, in many cases, be still applicable; for the re-potting of plants should be attended to whenever it may become necessary. It is usual, as the season advances, to indulge freely in the application of stimulants, such as increased heat and moisture; care should be taken not to fall into an extreme in respect to the degree applied. The growth of climbing plants of all kinds should be particularly attended to, tying up and pruning them as they may require; they should, in all cases, be furnished with supports appropriate to the position they are to occupy. Temperature 65° at night, 70° to 85° by day.

Greenhouse. Both here, and in the stove, propagation should be going on briskly, both by means of seeds and cuttings. In endeavouring to secure a free admission of air, avoid submitting the plants to the chilling influence of piercing winds, which are particularly injurious to them when forming their young and tender shoots. It is important, as the plants extend their growth, to fix it in its proper position with reference to the general figure of the plant; and the best means of effecting this are those which are the least conspicuous. The plants may be re-potted whenever the roots become numerous.

Flower-Garden. Besides the planting of all hardy plants, and the "dressing" of all flower beds and borders and shrubberies, there will be abundant work to be done in the propagation of half hardy plants in frames, on slight hotbeds, ready for "bedding out" in the flower garden. The cuttings should be struck off quickly, potted, and gradually inured, so as to bear exposure well, as soon as it is safe to expose them fully. Half hardy annuals should be sown in quantities, for a similar purpose, and they should be treated in a similar manner. Both these, and the former, should be reared as hardy in their constitution as possible, so that they may grow away freely when planted out. Hardy annuals may be sown in the open ground, in the places where they are required to bloom; they must be thinned out, as soon as it can be done, so as not to crowd each other, and some protection should be afforded from snails and slugs; the best remedy is hand picking at night. Florists' flowers should be protected from heavy rains, especially those which are advancing to bloom. The mowing of grass lawns, destroying of weeds, and sweeping of walks, should never be neglected; on such routine operations depends much of the effect of all other arrangements. T. M.



GLOXINIA ROSEA ALBA.

[illegible]

THE

FLORIST'S JOURNAL.

MAY, 1844.

THE GLOXINIA.

WITH AN ENGRAVING OF G. ROSEA ALBA.

PERHAPS, never were the expectations of cultivators raised to a higher degree, than when their anticipations of hybrids of this lovely genus was first given life to, by the appearance of G. rubra. Thousands of seedlings were grown the following season, and many have continued to produce them annually ever since,—ourselves among the number: but how few have succeeded in producing a variety worth preserving! It is true, some consolation may be gleaned from the failure, but it is a selfish one—that the value of the few produced has been thus enhanced,—for it is not unlikely that, had cross-breeds been originated as readily as was at first imagined, they would have become so multitudinous by this time, as to have materially affected the general estimation in which they are held. Yet, however true this may be, and without regarding how particularly the "fortunate few" may hug themselves with this reflection, we must endeavour to elicit some other and more useful information from the disappointment. We have heard of no more than three varieties being raised at all worth keeping, and all of these we have had opportunities of seeing. They are each one pale rose-coloured, varying a trifle in the shade,—all evidently the offsprings of a cross between *rubra* and *candida.* But of the many hundreds we have seen flowered from seed of *rubra* and *speciosa*, or any of its varieties, not one but has degenerated into something worse than the coarsest blue of *speciosa*, without a tinge of the bright colour of its other parent. It may be imagined that in many instances, the proper cross-impregnation was not effected, and that therefore the plants raised were no more than seedlings of one parent; such, indeed, may have been the case with several, but we are aware of instances in which proof was given to the contrary, by the seed-vessel swelling to an unusual size — nearly twice that of others which were not artificially fertilised; still the results were the same. However, all astonishment at this perverse stubbornness must cease, when we find that rubra is itself but a variety of speciosa, which is positively proved by its own seed producing blue varieties; not that this is a definite cause of the non-production of hybrids — for there are many instances in which varieties of the same species hybridise freely — but by some peculiar characteristic these two will not mix, and therefore, in continuing the attempt to obtain cross-bred Gloxinias, it will be necessary to select some other well-defined species to supply the parent place hitherto occupied by speciosa. Perhaps something desirable may occur by substituting *caulescens* or *hirsuta:* this last, indeed, appears a very desirable species, as a combination of its singular hairy foliage and pale purple flowers with the widely different aspect of *rubra,* must produce something at once novel and interesting; indeed, we think this intermixture more promising than any other, and it shall have our best attention in the ensuing season.

We have on several occasions promised to give an idea of the mode of effecting artificial impregnation, and as the season for such operations is at hand, we cannot have a better time to redeem our promise: to the practised cultivator it will of course be unnecessary, but we trust he will excuse the repetition on remembering his own first attempt. It is with the sexual organs alone of the plant that the hybridiser has to deal; these, on examination, will be found to consist of two kinds — the stamens or male organs, and the style or female organ; on the points of the stamens will be found the anthers, containing the pollen or fructifying dust; this, by being conveyed from one flower and applied to the stigma (situate on the top of the style) of another, produces cross-bred seed. To perform the operation in a sure manner, the flower intended to bear the seed should have its anthers cut out as soon as possible after the opening of the flower, and after standing until the stigma is ripe, (to determine which is the only difficult part of the operation,) the pollen of the flower it is desired to cross with is then applied by means of a fine camel-hair brush, observing to lay it evenly over the whole surface of the stigma. To prevent accidental impregnation, which is very likely to occur, from wind, insects, &c., it is always necessary to protect the flower that is to bear the seed with a covering of thin gauze, or some such material, unless it is standing under glass, and in a situation not subject to roving visits from bees, butterflies, &c.

Our present illustration, *G. rosea alba*, is an hybrid obtained by Mr. Rendle, Nurseryman, of Plymouth, from seed of *candida* impregnated with the pollen of *rubra;* its beautiful intermediate colour at once proclaims its origin, and we have no doubt it will speedily become a favourite. This is one of the very few instances of any other than *speciosa* being thought of as a parent for the future progeny; and the success attending its adoption must have great weight in determining future attempts of the same kind.

[For a detailed account of the culture of this handsome and interesting genus we must refer our readers to page 245 of Vol. III.—Ed.]

LIST OF ORCHIDEÆ.

(Continued from page 73.)

170. *Grammatophyllum floribundum.* Plant pseudo-bulbous, bulbs seven inches long, and better than three inches broad, rather flat, and of a shining green colour; leaves mostly in fives, about eighteen inches long and two inches broad, a little waved; the raceme half-pendent, two feet long, and produced from the base of the bulb; flowers verticillate along the raceme, the colour greenish yellow, veined, and blotched with brown. This species is worth cultivation: it requires a strong heat and plenty of water during its growth; it may be grown in a pot, in a mixture of sphagnum, turfy peat, rotten wood, and a little charcoal, with a temperature of 70°. — *A Native of Pulo Dinding.*

171. *Grammatophyllum speciosum.* This plant is much similar in growth to the above, but its flowers are more showy, from which circumstance its specific name is derived: it may be treated in the same manner. These are the only two species that this genus is composed of; but a variety has lately come out, called G. multiflorum tigrinum, the colour of which is nearly as rich as that of Oncidium papilio: it requires the same treatment as the others. This genus should have a particularly good drainage, as the roots are liable

to rot if kept too damp; still a shady place is of great service in the growing season.

172. *Grobya Amherstii.* Plant pseudo-bulbous, bulbs two inches long and round, leaves in threes and fours, one foot long; and half an inch broad: this species requires pot cultivation, in a mixture of sphagnum, turfy peat, and a little charcoal: it requires a liberal supply of water when growing, with frequent syringing, but should be kept rather dry during the resting season: temperature while growing 65°. — *A Native of Brazil.*

173. *Grobya galeata.* This species is pseudo-bulbous, and requires the same management, both as regards treatment and temperature, as the above. — *I believe, a Native of Brazil.*

174. *Gongora maculata.* Plant pseudo-bulbous, bulbs five inches long, and deeply furrowed, leaves in pairs, eighteen inches long and five inches broad, rather of an ovate shape: flowers produced from the base of the bulb on a long drooping raceme, verticillated along the raceme, of a buffish yellow, spotted with brown. This species will do either in a basket or pot, with a mixture of sphagnum, rotten wood, and turfy peat, and a liberal supply of water while growing, with a temperature of 65° to 70°. — *A Native of Demerara.*

175. *Gongora maculata var. alba.* Plant pseudo-bulbous, bulbs four inches long, a little furrowed; leaves in threes, one inch long, and rather better than four inches broad, of an ovate form; the raceme about three feet long, producing a large quantity of flowers, white, spotted with brown. This species requires the same treatment and temperature as the others. — *A Native of Guiana.*

176. *Gongora maculata var. lutea.* This plant is very similar in growth to the last, except that its leaves are rather longer, the raceme is not so long, and the flowers are a buffish yellow: it requires the same treatment and temperature. — *A Native of Guiana.*

177. *Gongora maculata var. sanguinea.* This is another species, very similar in growth, but differing in the colour of the flowers, which are, instead of brown, a dark red: it also requires the same treatment and temperature. — *A Native of Demerara.*

178. *Gongora atropurpurea.* Plant pseudo-bulbous, bulbs rather shorter than the others; the leaves are also shorter, and of an ovate form; the raceme produced in the same way, flowers of a dark purple, requiring the same treatment and temperature. — *A Native of Demerara.*

179. *Gongora Buffonia.* Plant rather smaller in growth than the others; its flowers are different in colour as well as form. This species seems to thrive well on a lump of turf, provided it is kept moist; it will also succeed with the same treatment and temperature as the others. — *A Native of Brazil.*

180. *Gongora nigrita.* Plant much like the others in habit, particularly G. atropurpurea; its flowers are darker, being almost black: it requires the same treatment and temperature. — *A Native of Demerara.*

181. *Gongora fulva.* This is a beautiful species; its growth is stronger, and the raceme is longer; its flowers are similar to G. maculatum alba; it requires the same treatment and temperature as the others. — *A Native of Oaxaca.*

This genus is composed of nearly twenty species, which are perhaps more singular in form than any other plants of the whole tribe; they are also easy of cultivation, only requiring plenty of pot room, and a liberal supply of water, with a good heat during the time they are growing.

John Henshall, K—p—y.

(*To be continued.*)

ON THE CULTIVATION OF FUCHSIAS.

As I am constantly deriving both pleasure and profitable information from the pages of your excellent work, I feel bound to offer in return the following remarks on the culture of that beautiful genus the Fuchsia, which, from their great popularity, I am induced to think may not be without some interest. There are some cultivators who, notwithstanding the immense advance that has lately been made in the culture of these charming objects, still manage to keep a-head of their competitors, continuing to produce specimens which, for luxuriance of growth and the brilliancy of their flowers, surprise every one: this I have found to depend on two conditions; first, the soil they are grown in, and secondly, the state of the atmosphere at the two periods of growing and blooming. I may as well here premise that, to grow Fuchsias to the perfection they are capable of attaining, it is essential to have a house devoted to them alone, — and I may ask, to what more deserving class of plants can an Amateur devote his greenhouse? — there is not a family that will yield the same continuance of splendour and delicate beauty with the same amount of trouble; it is well known they do not require more than half the attention of Pelargoniums, yet they continue to produce their lovely blossoms for three or four times as long. The house to be recommended for them is a small, low, span-roofed one, capable of holding, say fifty specimens, having a front shelf near the glass for the small plants, and a centre stage for the larger ones; it should be heated with an iron tank having a moveable cover, to allow the admission of steam at required times: these things are perhaps not absolutely necessary, but contribute most materially to the production of perfect specimens. The soil most conducive to the dark luxuriant foliage so much to be desired, and which is the great secret among the growers of this tribe, I have found to be — heath-mould, or what is commonly called peat: pure, unadulterated heath-mould, I can confidently affirm, is all that is necessary for the production of the finest specimens; this, chopped up roughly, and the plant allowed plenty of it, that is, a large shift each time, will insure a fine vigorous growth. Keeping these plants in heavy soil and small pots causes the young wood to be small, and consequently soon hardened when they set about forming flower-buds — a thing to be avoided as much as possible in the early stages of the growth, which should be quick and succulent, so as to retain all the lower foliage: this rapid production of wood is greatly assisted by admitting every night sufficient steam from the tank mentioned to fill the house, which, condensing on the plants, covers them with a genial dew-like moisture, the benefits of which will be visible in a week. This treatment should be continued throughout the growth of the plants, until they have attained the required size, when it becomes necessary to diminish the supply of moisture, that the blooms may have proper brilliancy. They will now require constant shading from the sun, and, indeed, the shade may be applied occasionally even earlier than this with much advantage, for, although they are natives of the sunny hill-sides of Southern America, I have found that exposure to the sun retards the developement of wood and induces a state of flowering — no matter what the size or age of the plant be — so that protection from its rays is necessary in the first instance, to allow the plant to make the rapid growth so essential to its beauty, and afterwards to preserve the colour of the flowers. The only period at which the full influence of the sun is desirable is just at the completion of the season's growth, for about a week or ten days, to throw them into flowering: of course, plenty of water must be given all the time the plants are growing and flowering, and, if steam cannot be admitted, the syringe should be used freely until the blooming time arrives: in short, their culture may be summed up thus, — a free open soil, and plenty of it, and a continually moist atmosphere. For the winter treatment I would recommend that they be cut down to within at most six inches of the base of the stem. This keeps them dwarf and bushy, besides inducing a stronger growth; and, after being thoroughly dried, they may be stowed away in a shed, or any other dry place impervious to frost, and their places may then be occupied with other plants required, either for turning out into the flower-garden during the summer months, or as a help to other houses that are crowded.

I subjoin a list of a few that may be termed indispensable,

And am, &c.,

F. T. C.

Kent.

List of Fuchsias.

Formosa elegans.
Stanwelliana.
Ivery's Gem.
Smith's Gigantea.
Girling's Candidate.
Venus Victrix.
Harrison's Enchantress.
Brockmannii.
Loudonii.
Smith's Queen Victoria.
Eppsii.
Magnifica.
Chandlerii.
Bell's Prince of Wales.
Rosea alba.
Smith's Paragon.
Tricolor.
Laneii.

HORTICULTURAL ESSAYS,

By the Members of the Regent's Park Gardeners' Society.

ON THE CULTIVATION AND FORCING OF THE VINE.

By Mr. D. DOIG.

HORTICULTURE has of late years advanced with such rapid strides, that at the present day, the cultivation and forcing of the vine is so generally understood among practical gardeners, that it is probable the following remarks may contain nothing new. I have been induced to take up this subject at the express desire of a brother member; and in the hope, that it may be the means of drawing some practical observations from the members present: should the few remarks I am about to make, in any way be the means of affording information on the subject of forcing the vine, to any of my fellow members, the end I had in view will be realised, and I shall rest satisfied that my time has not been spent in vain.

It may be supposed, that in treating of this subject a short historical sketch of the vine should be introduced, but I decline doing so, on the ground that I should have to copy this information from books already published, which is entirely foreign to my intention. I shall, therefore, simply refer to "Rhind's Vegetable Kingdom," where the requisite historical information will be found, under the article *Grape Vine.*

I propose to treat on the various heads by rotation, as follows: — *Propagation; Preparation of the border; Planting;* and *Pruning;* and conclude with a few *general remarks.*

Propagation. — Various are the methods which have been adopted by different propagators of the vine ; namely, by seeds, layers, cuttings, buds, inarching, and grafting.

Propagation by seed is resorted to, to obtain new varieties ; the seeds ought to be sown early in February, in bottom heat, in order to accelerate their germination, and when they have made two or three leaves, they may be potted, singly, into small pots, and be again plunged in a little bottom heat, until they have made fresh growth ; they may then be removed to a shelf in a vinery, prior to their being inarched on some side shoot, or spur of an established vine : if allowed to remain in pots, it will be four or five years before they show any disposition to fruit ; but by having them in a forward and healthy condition, fit for inarching, the season they are sown, they will in all probability show fruit the following summer, and should the variety prove unworthy of cultivation, the spur can be removed at the pruning season, and a fresh one will supply its place.

Propagation by layers is sometimes practised both by nurserymen and practical gardeners : it is performed thus ; — in winter, or in the spring, take a shoot of the previous year's growth, cut it down to one eye, and then give it a twist, or cut a ring round the bark a few inches under the place where it started the foregoing season — that is, on the second year's wood ; then peg it down to the soil ; and when once it has got rooted, which will be about the beginning of August, it may then be detached from the parent stock, which will give it check sufficient to stop its growth, and thereby enable the wood to become properly ripened before winter. When this process is performed in a vinery, it is generally done in pots ; the branch intended to be layered is introduced through the hole in the bottom of the pot, which is then filled with soil ; when rooted, it should be cut gradually away, until it is finally detached. I have seen as many as twelve bunches upon a layer thus managed, which certainly formed a very pleasing object when set upon a dining-room table. I would, however, by no means recommend the use of such plants for furnishing a vinery, for I have had an opportunity of witnessing the trial of a few such as these, some years ago, and the result was but little short of a failure ; the wood they made the season after planting was scarcely more than two feet long, and small in proportion.

Propagation by cuttings is now very much out of practice, as it involved not only the loss of the previous year's shoot, but it required also at least two inches of the two-year old wood; the beginning of February is the time generally adopted for putting in the cuttings, which should have two inches of the old wood with one eye of the new, and should be planted separately in small pots, leaving the eye above the soil; they should be plunged in bottom heat, and be shifted when it is required.

Propagation by buds is by far the best, simplest, and most economical method that can be adopted; they generally become better rooted, and consequently produce wood of a superior texture to that produced under any of the above systems: it is now generally adopted either for pot culture, or for furnishing a vinery with permanent plants. Select the earliest and best ripened wood, where the eyes or buds are well swelled, and the shoots are moderately strong and short jointed, with very little pith; these may be chosen at the pruning season, and preserved till the spring, by placing their lower ends in soil. The season for propagating is the same as when cuttings are employed: an inch and a half of wood attached to each bud will be sufficient, that is, an inch below and half an inch above the bud: plant them singly in small pots, using a rich sandy soil, laying them in a horizontal position, and covering the eye with half an inch of soil; plunge them in bottom heat, and when they are rooted and have begun to grow, they will require plenty of pot room, and a very rich soil, with frequent waterings of liquid manure; if thus treated, and kept growing in a moderate heat, they will make excellent rods by the autumn, for the next year's forcing.

Inarching requires to be done when the wood is in a green state, to make them unite soon; but this system is only available where the plants are growing together: the method of performing it being so generally understood, I will not take up time by describing it.

Grafting is a mode of propagation which I consider preferable to inarching; for as vines can only be inarched successfully on the young wood, it sometimes happens that young wood cannot conveniently be had where it is wanted. Grafting, on the other hand, can be performed on one, two, or three years' old wood, which gives it a decided preference. The time for putting on the grafts or scions is when the stock has made about six inches of young growth; then take the scions, which may have been put past for the purpose, and which are consequently in a dormant state, and insert them on the vines in the wedge or cuneiform method; make the scion of one or two buds long, cut the lower end in the form of a wedge, set carefully in the stock, and tie it round with matting in the usual way, cover it all over with clay, excepting one of the buds; then put a little moss round the whole, leaving an opening for the eye; it is necessary to have a growing shoot left above the graft, in order to draw up the sap before the scion begins to grow; when this is observed, it may be cut away in order to assist the union; the moss should be kept always moist. Grafts put on in this method seldom fail, and I have seen them produce the same season, two bunches of excellent fruit.

Preparation of the Border.— There is a great variety of opinions among gardeners concerning the soil of which a vine border should be composed; but all agree that it should be well drained, and be made perfectly dry at the bottom: to secure this, proceed as follows:—dig out the soil to the depth of four feet, and not less than thirty feet wide, with a fall towards the front, of three inches in every foot; put about three inches of stone or brick rubbish in the bottom, and over this a coating of cement or pavement, either of which will answer the purpose very well: on this drain tiles must be laid, in lines three feet apart, leading to a main drain in front; between and over these, stone or brick rubbish may then be laid, covering the tiles about three inches; cover the whole with turf, laying the grassy side downwards, to prevent the soil from mixing with and stopping the drainage. The soil may be composed of the following materials;—one half strong loam taken from an old pasture, one fourth rotten dung, and one fourth street or road sweepings; mix and chop them well together, and having done so, proceed at once, while the turf is fresh, to make the border: at the same time introduce some blocks of freestone, which will serve a two-fold purpose, viz. assisting the surface water to pass off freely, and supplying the roots with moisture in a dry season: fill it a few inches above the intended height, leaving the surface parallel with the bottom. Autumn, or early winter, is the best time for doing so, in order that it may have time to subside to the proper level before the planting.

Planting.— There are various opinions concerning the time for planting; one says March, another May; but either of those times will answer, provided it is properly done. I would prefer doing it about the end of May, in the following manner: — the plants which were raised from eyes the foregoing season should be cut down to one eye in the autumn, and be shifted into a larger pot, and started early in March, in a slight bottom heat; this will assist their rooting freely into the fresh soil, and thereby strengthening the young wood; keep them growing till the end of May, when they may be carefully planted in the border with the buds entire; give a gentle watering with tepid water, to settle the soil about their roots, and then cover with a few inches of short dung to prevent evaporation; and should the season afterwards prove dry, a soaking of diluted liquid manure will prove very beneficial: by that time, the shoots will reach a good way up the rafters, and if they show any signs of flagging, they will require to be shaded for a few days from intense sun; if kept growing in a healthy condition by frequent syringings, the roots will soon extend in the border, and the shoots will also soon reach the top of the house; but rather than top them, at that time, train them down the back a little way: stop all the laterals as they appear; keep a steady heat, till the wood is thoroughly ripened, which may be known by the wood and leaves assuming a brown colour.

Pruning. — Gardeners differ so much on this point, that almost every one has his own system; but I shall only glance at one or two of them, which are most generally practised. I am of opinion, that a good crop of grapes does not so much depend on the pruning, as it does on the soil in which they are planted, and the climate in which they are grown; we will take the rod which is produced the season of planting, in order to exemplify by it the different systems.

Long Rod. Those who practise this mode would cut it half way down the rafter the first year; the following season they would allow the leading shoot to reach the top of the house, and at the same time would endeavour to induce one to arise from the bottom, which would be trained two-thirds up the rafters before stopping it: when the pruning season again arrives, the leading shoot is cut within eighteen inches of the top of the house, and the lower one half way down, at which period the whole height of the roof of the house will be entirely filled with bearing wood. At the end of the third summer, if another shoot is brought from the bottom, there will be three of different ages; but by cutting away the oldest, the house will then be in the same condition as it was at the end of the second year. Thus, by cutting away the oldest shoot, and encouraging a young one every successive year, a constant supply of young wood will be maintained.

Long Spurs. It is the practice with those who adopt this method of pruning, to cut the vines half way down the first year, under the idea that by leaving them all the length of the rafters, it would be too much for the roots to support at that early stage of their growth; but to such I would say, if their vines are in a good condition, the roots will support them all the length of the rafters even thus early. I had the pleasure of seeing a vinery where the young wood was left all the length of the rafters, (which were not less than sixteen feet) each producing from twenty to twenty-six bunches of grapes, varying from one to three pounds in weight; and judging by the appearance of the wood they had made, something better might have been anticipated the following summer. After the fruit is cut, and the wood well ripened, the shoots which have borne fruit the foregoing summer are cut back to three or four eyes; and when those have thrown their fruit, the following spring only two shoots (the bottom ones) on each spur are allowed to remain, except it be that any of the others show the largest bunches: when the next pruning season has arrived, the old spurs are cut down to the bottom shoots, which are also shortened to three or four eyes. Some are now practising what they consider to be an improvement on this system; in the place of leaving all the buds on the spurs to break, they leave only the top and bottom ones, the intermediate ones being cut off at the pruning season; the top one only is allowed to bear fruit, whilst the other is encouraged for bearing wood: the great objection against the old way, is, that the vines having to push more eyes than is necessary, they must consequently be weakened more than if all the energy of the vine was directed to the support of one: the improved method is also liable to the same objection, in a less degree; they have also the effect of darkening and crowding the house with superfluous wood and leaves; these evils are entirely obviated by *short spurring*, in doing which it is the practice, in place of leaving the shoots with three or four eyes, to cut them in to the one nearest the stem; this gives the vines a neat and tidy appearance at all times, and I consider it best adapted for early forcing, as the buds break sooner, which is a point of no small importance.

Having now offered some remarks on propagation, the preparation of the border, planting, and pruning, I will make a few concluding REMARKS, which will be devoted to the general management when forcing. In some places where forcing is carried on extensively, they begin as early as October or November; but at that early period pot-vines are generally employed, because a regular succession by propagation can be maintained, and those which have been forced can be thrown away. By commencing the excitement thus early in established vineries, the whole course of forcing is entirely against nature, and the consequence is, frequently, that in a few years the vines become languid and weak, and little or no fruit is the result. I consider December quite soon enough to start; the house ought to be shut close a fortnight previous to the application of heat, and when this is furnished with a pit, the latter may be filled with fermenting materials; but where no such accommodation is to be had, make up a ridge of fermenting material all the length and inside of the house, which will serve the purpose nearly as well, although it may not be so pleasing to the eye; turn a portion of this every day: the steam arising therefrom will greatly assist the breaking of the vines.

But while thus careful of the interior, we must not forget the border outside; this ought to be carefully forked over, and covered with dung or leaves to the depth of eighteen inches or two feet, according as the supply will allow; turn it at least every fortnight, and when the heat begins to decline, add some fresh materials, and on no account let the heat decline till the season is well advanced; having got everything thus far ready, turn the tops of the vines towards the bottom, which will cause them to break more regularly; the heat arising from the dung will be found quite sufficient, unless the weather is very severe; the temperature may be from 45° to 50°, rising 3° every week, by fire heat, till it reaches 60°, which will be high enough till the vines begin to flower; admit but little or no air, till that time, as I consider the free admission of cold air chills the young wood at that early period of the year, and hence the cause of so many poor shanked bunches, which are but too frequently seen: syringe twice a day, with tepid water, till they are in leaf, when they will require to be tied up to the rafters; afterwards syringe once or twice a day, according as the weather will permit, leaving it off entirely when the vines are in flower, and having then recourse to steaming by pouring water on the flues or pipes; besides this a quantity of evaporating pans should be continually filled with water: stop the shoots at the first joint above the bunch; and when the flowers begin to open, the heat may be increased to 65° or 68° at night, allowing a rise of 10° by the sun; admit as much air by day as circumstances will allow. It is of great service in assisting them to set, to shake the trellis every day, thereby causing the pollen to be freely distributed through the house; some sorts will not set well unless this precaution be attended to: when they are set, and swelled to the size of peas, the operation of thinning may be performed; but as no rule can be set down for that, I will leave it to the judgment of the operator, merely observing, that such as form large shoulders should have them suspended, by small strips of matting, to the wires or trellis, to prevent their damping, and to give more room for the berries to swell to their proper size. From this period till the fruit begins to colour, little more is wanted but syringing and stopping the laterals as they appear, breaking off close all those which push under the fruit: when the fruit begins to colour, the house should be kept as dry as possible, and plenty of air admitted till they are all cut. A good washing from the engine will be of great service in refreshing and cleansing the leaves, after the fruit is cut: keep the house closed till the wood is ripe, when it may be pruned; afterwards expose it night and day, except in severe weather, till the season of forcing has again arrived. These remarks may be applied to late as well as early forcing, with the exception of covering the border, as the sun will in the former case have attained considerable influence, rendering the use of fermenting materials unnecessary; a coating of short dung will, however, be of great service, as the rain during the summer months will wash down to the roots the nutriment it contains; at the same time it will encourage the roots towards the surface, and prevent the sun from exerting too powerful an influence upon them.

I am no advocate for washing the vine with any composition, unless necessity requires it for the destruction of insects; in such cases it is unavoidable. The following method I have seen practised with great success, in eradicating the brown scales:—take off the loose bark, then wash with soft soap dissolved in hot water, using a hard brush, and taking care not to hurt the buds; afterwards apply hot lime made to the consistency of thick paint; it is necessary to wash the wires and rafters at the same time, as the scale will be often found clinging to them.

Among all the receipts given for killing the red spider, I have found none so simple or efficacious, or which does less injury to the vine, than the following, which I saw practised in a vinery where the insect had made great progress during the time the vines were in flower: — as soon as the fruit had set, the garden engine was taken into the house, and clean water thrown on the leaves with considerable force, taking care not to miss a leaf; this was continued for three alternate nights, and the process either killed the insects on the leaves, or washed them off, and left them in such a state that they were unable to recover; the consequence was, that not a single spider made its appearance during the rest of the summer.

The kind of house best calculated for early forcing is one placed at an angle of about 45°, as the rays of the sun will act with more force on it, during the winter months; and in all cases where practicable, the vine should be planted inside of the house.

Colouring. — There are a great many opinions as to the cause of grapes not colouring well: some attribute it to the want of sun and air, others to the plants producing too heavy a crop; but I am of opinion, that the cause is to be attributed to the state of the border, as I have invariably found, when the vines were planted in a good border and properly managed, the grapes were all that could be wished.

The sorts best calculated for early forcing are the following: —

Black.	*White.*
Black Hamburgh.	White Frontignan.
Black Muscadine.	White Muscadine.
Black Frontignan.	White Sweet Water.

Cambridge House Garden, Twickenham,
Feb. 7. 1844.

VISITS TO REMARKABLE PLACES.

We lately had the pleasure of visiting that seat of provincial horticulture, the neighbourhood of Manchester; but it happening just when our last Number was going through the press, the attention it required rendered time valuable, and consequently abridged the limit of our stay. The cultivation of orchidaceous plants is the prevailing taste in this part, and it is well known that very many of the most beautiful which are now disseminated throughout the kingdom were first located here. It may, indeed, be termed the centre from whence both the taste for orchideæ, and the means of gratifying it, have been extended. Knypersly Hall, the seat of J. Bateman, Esq., was the first point of attraction to us, and here we found a rich treat. The gardens, surrounded by the abrupt hills characteristic of this part of the country, are situated on the southern slope of a gentle eminence, having delightfully romantic and varied views among the surrounding hills and woods. The first place proceeded to was a large greenhouse. Here were some fine Epiphyllums, grown in baskets hung from the roof of the house; also several noble Azaleas in bloom. In this house was a plant of Dendrobium Wallichii in a fine healthy state, which was stated to have been grown here during the winter; there was also Cyrtopodium speciosissimum and Calanthe discolor. The temperature of this house was about 45°.

The next house is a vinery: this was nearly filled with orchidaceous plants, such as Lælia superbiens, very strongly grown, fine plants of Dendrobium pulchellum and Barkeria Lindleyi, Stanhopea aurea, Oncidium bicallosum, Odontoglossum pulchellum, and a remarkably strong and healthy mass of O. grande, which is constantly kept here and blooms annually. There were many other smaller plants equally healthy, beside two very large plants of Musa Cavendishii, about fruiting. The temperature of this house was 60°.

The adjoining house is one devoted to South American orchideæ; it is long and rather low, the path or floor of the house being sunk some two or three feet below the ground level. Here we noticed fine plants of Lælia cinnabarina, Epidendrum Stamfordianum, E. elatum, E. patens, Cattleya Skinneri, C. crispa, Oncidium Cavendishii, and O. excavatum: these were fine specimens, of good growth, and of a large size. The house is well stocked with many other rich and rare species, besides a great number of unproved importations. Here the temperature was about 65° abounding with moisture.

Leaving this, we entered a large span-roofed house with double glazing, having as it were ordinary lights, and at an interval of about four inches towards the outside another covering of lights. The advantage of this system lies in the intermediate space between the light lessening the action of the outer air on the temperature of the house, but it is not found of sufficient importance to warrant the additional expense, and is besides unnecessary where a good heating apparatus is at command. This erection is filled chiefly with Indian orchideæ; several specimens of Stanhopeas attract attention; but those most deserving remark are the Aerides and Vandas, being fine plants, and several of them very rare. The temperature of this house ranged from 75° to 80°. The remaining portion of glass appeared to be in excellent condition.

Contiguous to this part of the grounds is the flower-garden, on entering which our attention was immediately arrested by an excellent piece of rockwork, composed of stones quarried in the neighbourhood, of several tons weight each, the bases and recesses among which are studded over with rhododendrons, and other American plants. Connected with this by a narrow path edged with ferns, and leading by the margin of a pretty piece of water, is another well-managed piece, representing a sort of sarcophagus or cave, containing stone coffins from Pompeii and other Roman antiquities. This place is constructed, like the other, of ponderous masses of rough stone; and when each is viewed in connection with the other has a very imposing appearance. The surrounding neat and well-dressed flower-garden affords a contrast perhaps rather too abrupt, but the intervening piece of water, by harmonising with both, tends to render the transition more reconcilable. Passing hence, our course lay by the rosery, containing some valuable kinds, but our space will not allow the enumeration: on to the pinetum; here we found very nice young plants of Araucaria, Cedrus, &c., growing luxuriantly in a delightful spot. From this place we directed our steps, by a walk of about a mile in length, along the edge of an artificial lake — a sheet of water covering, we understood, above an hundred acres—towards the tower, a building apparently intended for a look-out, but unfortunately placed in a comparative hollow: returning by a neat architectural bridge over the lake, we finished a very pleasant day.

The following is a list of the orchidaceous plants blooming at the time of our visit: —

Leptotes bicolor.
Oncidium pubes.
Oncidium hians.
Cebolleti.

- Oncidium junceum.
  - luridum.
    - guttatum.
  - Wentworthianum.
  - Cavendishianum.
  - flexuosum.
  - ampliatum major
  - leucochilum.
  - Henchmannii.
  - carthaginense.
  - pulvinatum.
  - altissimum.
- Sarcanthus paniculatus.
- Phaius maculatus.
  - grandiflorus.
- Gongora fulva.
  - maculata.
    - var.
- Epidendrum patens.
  - macrochilum.
    - roseum.
  - selligerum.
  - verrucosum.
  - Stamfordianum.
  - cinnabarinum.
  - aurantiaca.
  - Clowesii.
  - species nova.
- Maxillaria Parkerii.
  - Harrisonii.
- Masdevallia infracta.
- Pleurothallis teres.
- Cyrtochilum maculatum.
  - var.
- Cyrtochilum filipes.
- Ornithocephalus ciliatus.
- Dendrobium elongatum.
  - pulchellum.
  - Heyneanum.
  - Ruckerii.
  - amœnum.
  - nobile.
  - cærulescens.
  - sulcatum.
  - Peirardii.
    - latifolium.
  - aggregatum.
  - moschatum.
  - Calceolaria.
  - fimbriatum.
  - macranthum.
  - Wallichii.
  - densiflorum.
- Acanthophippium bicolor
  - striatum.
  - sylhetense.
- Fernandesia elegans.
  - robusta.
  - lunata.
- Vanda Roxburghii.
- Batemannia Colleyi.
- Brasavola glauca.
- Lælia cinnabarina.
- Cattleya Skinnerii.
- Aerides crispum.
- Ponera striata.
- Cymbidium aloifolium.
- Trigonidium ringens.

LIST OF NEW PLANTS.

Verbenaceæ. — *Didynamia Angiospermia.*

Clerodendron infortunatum. This is a truly splendid species nearly allied to *C. squamatum*, having like it bright red flowers. The singular name *infortunatum* (unlucky) originated with Linnæus, who called another species *fortunatum*, and another *calamitosum*. According to De Théis this was in consequence of C. fortunatum being useful in medicine, while C. infortunatum and calamitosum are dangerous.

The plant before us was sent from Ceylon to His Grace the Duke of Northumberland, by Mr. Nightingale, and was flowered at Syon, in August, 1843. It is a stove shrub, which will succeed best from a cutting struck in autumn and kept in an intermediate house until the beginning of February, when it should be repotted and induced to grow. The soil should consist of peat and loam, and if a mixture of well-decomposed cow-dung is added, so much the better. In the summer season an ample supply of water should be given, and the atmosphere kept as moist as possible. This plant differs from many others in not requiring to be topped, nor does it require a high temperature. — *Bot. Reg.*

Orchidaceæ. — *Gynandria Monandria.*

Eria floribunda. Although the flowers of this plant cannot boast of large size and rich colours, they are by no means destitute of beauty. Arranged as they are in long drooping racemes of a pure white, glossy in texture, and delicately touched with crimson, they are among the prettiest of the smaller kinds. It is a native of Sincapore, whence it has been received by Messrs. Loddiges. — *Bot. Reg.*

Byttneriaceæ. — *Monadelphia Polyandria.*

Trochetia grandiflora. This noble plant was introduced by His Grace the Duke of Northumberland from the Mauritius, and flowered at Syon in December last. The original plant is a seedling, about six feet high; when struck from cuttings, it will probably become bushy, in which case it will be very beautiful, as it appears to be a fine flowerer. The blossoms are snow-white, with a yellow blotch at the base of each petal, and are nearly three inches in diameter; their pendulous position, which occurs in all the known species of the genus, gives them a peculiarly graceful appearance. — *Bot. Reg.*

Labiatæ § Stachydeæ. — *Didynamia Gymnospermia.*

Phlomis cashmeriana. To those who possess no greenhouse this good-looking plant from the valley of Cashmere will be welcome, for its large pale lilac flowers remain for a considerable time in beauty. It is a hardy perennial plant, growing about two feet high, with somewhat of the appearance of a Salvia, and flowering in July and August; it requires a rich light soil, and a situation which is rather dry in winter. It was raised in the garden of the Horticultural Society from seeds received from Dr. Royle. — *Bot. Reg.*

Orchidaceæ. — *Gynandria Monandria.*

Schomburgkia crispa. This fine genus is remarkable for the large size of its pseudo-bulbs, which are occasionally as much as two feet long. It differs from Epidendrum and its allies in having eight pollen masses, and evidently constitutes an extremely well-marked group. S. crispa has yellowish-brown flowers with scarcely a trace of purple, and by that circumstance alone it may be distinguished. Its lip is nearly flat, very little three-lobed, and broadest at the base: other characters peculiar to itself. It was sent from Demerara by Mr. Schomburgk to Mrs. Marryat of Wimbledon. — *Bot. Reg.*

Orchidaceæ. — *Gynandria Monandria.*

Phaius bicolor. This plant, it appears, was discovered in Ceylon by Mr. Macrae, but when introduced to this country we are not informed. The plant in habit is rather less robust than its ally P. Wallichii. The flowers are large and handsome, sepals and petals large, spreading, nearly two inches long, externally pale yellow-brown, within deep chocolate-brown and striated; lip large, standing forward, it may be called cucullate, the lower half or claw is convolute round the style, so as to conceal it; the limb is large, three-lobed, the lobes rounded and undulate, the side ones rose-colour; the middle is much the largest and is yellowish white. — *Bot. Mag.*

Gesneriaceæ. — *Didynamia Angiospermia.*

Nematanthus chloronema. This plant differs from *N. longipes*, now pretty well known, in having shorter flower-stalks and somewhat smaller flowers; in all other respects it is very similar. It was sent from the Organ Mountains by Mr. Gardner to the Glasgow Botanic Garden, where it flowered for the first time in July 1843. — *Bot. Mag.*

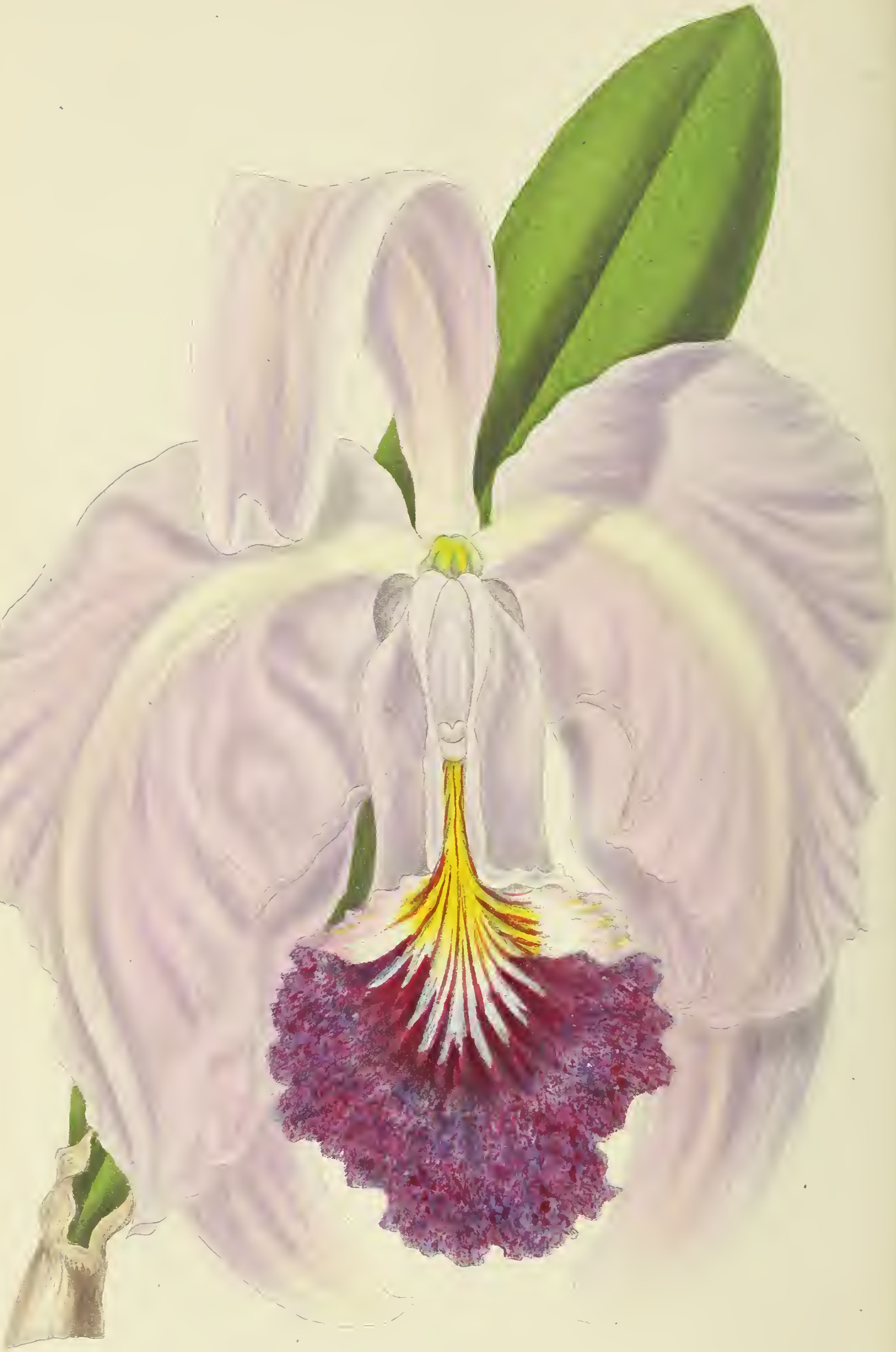
CALENDAR FOR MAY.

Stove. This is the season of the year for *growing* plants of a permanent character, as well as those of more limited duration, whose developement is become assimilated and adapted to our climate. The sun, supplying at once both light and heat, is the grand agent in forwarding the growth of plants. The principal artificial conditions required are these: — moisture in abundance, but applied in the form of invisible vapour, by evaporation from moistened surfaces; a low night temperature, affording a period of rest after the excitement of the day; atmospheric air equably diffused throughout the structure, admitted in different proportions both by night and day, but in no case admitted suddenly, or in large bulk; exposure to the atmosphere, by not being crowded by other plants, and shade in some few instances, which can be afforded chiefly by climbing plants. Insects are sure to establish themselves if the atmosphere be in an arid state. Attention must be paid to pruning and training all plants which require it. Temperature, night, 60° to 65°; day, 75° to 85°; or above by solar influence.

Greenhouse. The same principles should guide the amateur in managing his greenhouse plants as have been recommended in the stove. On account of its lower degree of temperature, more air must be admitted, both by day and night. The moister the atmosphere of these structures are kept in proportion to their temperature, the less degree of "fresh air" will be required to be admitted.

Flower-Garden. Almost all half-hardy and showy plants intended for decoration may be planted out some time this month, varying according to the state and prognostics of the weather: they should previously be perfectly inured to exposure in cold frames. A few annuals may be sown for succession, to bloom in the latter part of the summer: cuttings of free-growing plants may also be struck for a similar purpose. Florists' flowers in bloom require shade, in order to preserve the colours of their flowers, and extend their duration: those which are past their blooming state should be allowed to mature their foliage before they are removed; or if removal is indispensable, they should be removed as early as possible, and *planted where their growth can be completed.* Routine operations of all kinds should never be neglected until they become *necessary;* their necessary performance should rather be anticipated.

T. M.



CATTLEYA MOSSIÆ v. SUPERBISSIMA

THE

FLORIST'S JOURNAL.

June, 1844.

CATTLEYA MOSSIÆ var. SPECIOSISSIMA.

WITH AN ENGRAVING.

Throughout the whole range of floral beauties there is not, perhaps, a division possessing more interest and individual loveliness than is to be found in Orchideæ; delicacy or splendour in colouring, and singularity in the form, are present, either separately or blended, in nearly every instance.

The plant which supplies our illustration for this month has all these desirable qualities, with the additional one of being among the easiest of cultivation in the order. It flowered for the first time in the Tooting Nursery in March last, and, although at present considered only a variety of *C. Mossiæ*, is quite likely, on future examination, to be found sufficiently distinct to constitute another species. The appended note from our respected correspondent, Mr. P. N. Don, points out the distinguishing characters referred to, and contains its history and the mode of cultivation.

" *Cattleya Mossiæ var. speciosissima* is a very splendid variety of a very beautiful species: the pseudo-bulbs are more elongated than in the species; in fact, their character approaches more to caulescent than pseudo-bulbous, resembling those of *C. guttata* in habit. When the plant attains its full growth, it has two, and occasionally three, leaves at the apex of the stem, also elongated in nearly as great a proportion as the pseudo-bulbs: this is one of the distinguishing points, the parent species (if so it is), *Mossiæ*, having only one leaf to each pseudo-bulb.

" The flowers are large and handsome, being eight inches in diameter when fully expanded. The colour of the sepals and petals is light rosy lilac, the apex of the lips richly mottled with crimson-purple, and the column is smaller than in *Mossiæ,* and has a two-lobed crest, which I have not observed in any other of the species. Should this character with the habit of the plant prove to be constant, I should think it will be a good specific distinction.

"The plant was introduced to the Tooting Nursery about eight years ago from La Guayra. It is a plant of easy culture, requiring to be potted in very fibrous peat, and to be elevated a little above the rim of the pot, which should be well drained, so as to prevent the lodgement of any superfluous moisture about the base of the stems, and should be freely watered while in a growing state, but with a considerable reduction through the resting season. If it should happen to commence growing in the winter months, which some of these plants are apt to do, it is better to err in giving too little than too much water, it being far preferable to have a small winter shoot than to lose its growth in the summer, which is sure to be more vigorous and flower finer than any of those made in winter.

P. N. Don.

Tooting Nursery, April 18, 1844.

Horticultural Essays,

By the Members of the Regent's Park Gardeners' Society.

ON THE NATURAL ORDER LYCOPODIACEÆ,

By Mr. T. Moore.

The natural order Lycopodiaceæ contains, besides *Lycopodium,* the genera *Psilotum* and *Tmesipteris,* to which, by DeCandolle and others, is added *Isoetes.* Their general habit is that of moss-like plants, with imbricated leaves and creeping stems. In some instances they assume the character of stemless plants, having erect subulate leaves, and a solid cormus; among those of the latter description may be noticed *Isoetes lacustris*, one of our own native plants. They are all included among those which are termed flowerless plants — a name which has been applied to these and other cellular plants, in consequence of the non-developement of the floral organs, as in the majority of plants. Hence it arises that both the structure and the manner in which the organs of these plants perform their functions is very imperfectly understood; on the latter point, nothing is at all positively known. Their organs of reproduction are described to be, axillary sessile thecæ, or capsules without a ring, and bursting by distinct valves; in some cases they are indehiscent. They contain either a minute powdery substance, which some have supposed to be pollen, or larger bodies, which have been supposed to be the seeds or sporules, and which are marked at their apex by three minute radiating elevated ridges. Their leaves and stems have the same kind of structure with the larger mosses, and in their vernation, that is, the manner in which the undeveloped plants are folded, they are circinate.

The plants included in Lycopodiaceæ are distinctly characterised by their reproductive organs, which, as just noticed, are considered to be of two distinct kinds; both of these are, however, axillary and sessile, and have from one to three regularly dehiscing valves. Those persons who hold the opinion that plants of all kinds have sexes, maintain that those capsules which contain the minute powdery matter are analogous with the anthers of flowering or phœnogamous plants, and that the larger bodies are pistilla. Such an opinion is, however, conjectural, and appears to be founded on no direct evidence: all that is really known respecting them is, that the larger bodies have been seen to germinate; and Willdenow asserts, that he has observed the powdery particles to grow also. The opinion of Dr. Lindley is, that the larger bodies are the true sporules or reproductive atoms, whilst the others are the same in an abortive condition—an opinion which is strongly confirmed by the observations of Willdenow just referred to. We are told by Salisbury, that he has seen *Lycopodium denticulatum*, in the process of germination, evolve two cotyledons, thus exhibiting a dicotyledonous developement; but others suppose it to be more probable that the two little scales then evolved are primordial leaves rather than analogous to cotyledons, and that the mode of germination of the plant is in reality more nearly allied to that of monocotyledons.

The genus *Isoetes* is referred by some botanists to the natural order Marsileaceæ; but it is referred to the present order by DeCandolle, Brongniart, and Dr. Lindley. According to M. Delile, in *Lycopodium* the pulverulent thecæ, or those producing powder, occupy the upper ends of the shoots, whilst the granular thecæ, or those producing sporules, are situate on the lower parts: in *Isoetes*, the former are found in the centre, and the latter near the circumference of its globular mass of reproductive organs. The relative position of these thecæ affords a good evidence of the affinity of the two genera. Dr. Lindley observes: "If this comparison is good, it will afford some evidence of the identity of nature in these thecæ, and that the pulverulent ones are, at least, not anthers, as has been supposed; for in *Isoetes*, these pulverulent inner thecæ have the same organisation as the outer granular ones, even to the presence of what in these latter has been called their stigma." M. Delile states, that in germinating, the sporules of *Isoetes setacea* sprout both upwards and downwards, forming an intermediate solid body, which ultimately becomes the stem or cormus; he does not, however, state whether these axes take their rise from an uniform point, but as no analogy of structure has been discovered between these sporules and seeds (as the latter term is strictly to be understood), it is probable that they do not.

The properties of the order are not numerous. *Lycopodium clavatum* is emetic; the decoction is said to be more serviceable than any known means in removing Plica polonica: the powder contained in the thecæ is frequently used on the stage to imitate lightning, on account of its inflammability; for the same reason, it is used in the manufacture of fireworks; it is also used to prevent excoriation in children. *L. selago* possesses emetic and cathartic properties, acting powerfully, and producing serious giddiness and violent convulsions if taken in too large a dose: it is employed in the Highlands of Scotland, where it is also made into an irritating ointment, and applied with advantage to the neighbourhood of the eyes, as a counter-irritant. This unguent is also used to dress foul ulcers, and might be used for keeping blisters open, instead of *savin*. According to Linnæus, the Swedes find the decoction serviceable as a detergent lotion, and in destroying the vermin infesting swine and other animals.

L. phlegmaria is reputed an aphrodisiac. *L. Selago* is used in the Isle of Skye, in the Highlands, and in other places, to fix colours in dyeing, instead of alum. *L. alpinum* is used to dye woollen cloths of a yellow colour. *L. complanatum,* and *L. clavatum,* are also used as dyes; and, according to M. Vastring, woollen cloths boiled with *Lycopodiums,* especially with *L. clavatum,* acquire the property of becoming blue when passed through a bath of Brazil wood.

It is a rather general opinion, that in the earlier ages of the world plants of this affinity attained a gigantic size, equalled only by that of forest trees. A considerable quantity of remains of organic origin, found in coal mines and similar situations, have been regarded as plants which possess a structural affinity with Coniferæ. This affinity is possessed by *Lycopodiums,* as has been already noticed; and those who have spent much time in the investigation, have so far established the identity, as to render it certain that species, long extinct, belonging to this order, are abundant in such situations, in company with *Ferns* and other allied plants. Those known at the present day do not in any instance exceed two or three feet in height; by far the greater number are prostrate trailing herbs, having the habit and appearance of *Mosses,* although in many instances they are more diffuse. Their distribution over the surface of the globe is very similar to that of *Ferns,* being most abundant in humid situations within the tropics, especially in small islands. They are found in less abundance in more temperate regions, and become rarer as they approach the poles. In the climate of Northern Europe, however, and even in Lapland, whole tracts are covered with *L. alpinum* and *L. selaginoides.*

The cultivation of *Lycopodiums* is by no means difficult: the hardy kinds succeed perfectly in moist peaty soil, and a selection of the turfy parts is also a very suitable medium for the roots of those grown in pots, which latter are best set into pans or feeders of water. They succeed perfectly when suspended in baskets, and also when their roots are merely enveloped with moss; in short, wherever moisture is abundant, and there exists a sufficiently elevated temperature to meet the wants of the several species, there need be no apprehension of their success. Some of the delicate trailing kinds may be very aptly applied to cover the baskets, and other means by which Orchidaceous plants are suspended; and the hardier trailing species form interesting objects, as edgings to vases, in which ornamental plants are set. A piece of flat rockwork, constructed in a damp situation, and so that the spaces for the plants may be made to resemble a morass, would no doubt be found to be more than any other situation adapted to the hardy kinds. *Isoetes* and *Psilotum* are small plants, which, though interesting to the botanist, are scarcely so to the ordinary cultivator, unless, indeed, they may be prized on account of their rarity. The former is an aquatic, and is found in some of the lakes in this country; the latter is a native of the West Indies.

The derivation of the generic names of the plants which form the subject of this paper, is the following: *Lycopodium*, from *lykos*, a wolf, and *pous*, a foot; in allusion to the resemblance of the roots. *Isoetes*, from *isos*, equal, and *etos*, the year; the plant having the same appearance throughout the year. *Psilotum*, from *psilos*, naked; the triangular stems being destitute of leaves, and possessing a slender twiggy habit.

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ON THE CULTURE OF DUTCH BULBS,

By Mr. W Ansell.

The Hyacinth.—The garden Hyacinth (*Hyacinthus orientalis*) is a native of the East; it is said to grow abundantly in the Levant, about Aleppo, and also at Bagdad, flowering a month or more earlier there, than it does in our gardens. It is mentioned by Gerarde to have been cultivated by him, in 1596. The Dutch had cultivated this flower for a long series of years before it was known in this country, for which they had become notorious. The most celebrated of these cultivators are the Haarlem florists, at which place whole acres are devoted to their cultivation; and from whence an annual supply is sent to our markets.

Planting the full-grown Bulbs. It is requisite to remind the purchaser that he should make a selection of his bulbs, when purchasing, or even when planting from his own stock; as many will produce inferior flowers. A good hyacinth bulb, such as is most likely to produce a fine truss of bloom, is of medium size, solid, and conical; the flat-shaped larger bulbs are apt to break
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into offsets, and seldom, if ever, flower in perfection : such bulbs as are from four to five years old, either from seed or offsets, are considered to bloom stronger in this country, than those of greater age. In Holland, where the climate, soil, and general management is more favourable than in England, the same individual bulb has been known to flower for twelve or more successive years, and indeed they have never been observed to die of age ; and I have no doubt that as much might be accomplished in England, with skilful cultivation.

From about the middle of October to the beginning of November, is the best time for planting the hyacinth : a dry and airy plot of ground should be selected, declining toward the south, and sheltered from the north and easterly winds. A fortnight or three weeks previous to planting, the earth in the bed should be taken out to the depth of two feet ; the bottom ought also to be dug over, and the earth rendered as loose and pervious to moisture as possible, for the purpose of giving a good drainage. Should the soil be retentive of moisture, it would be advisable to remove the earth to a greater depth, and to replace it with a stratum of brick rubbish, or coarse gravel, nothing being more injurious to the hyacinth than a superabundance of moisture.

The space left by the removal of the earth must be filled in with a light rich compost, eight inches or one foot above the ground-level ; and when this is well settled, the surface must be made quite smooth and even ; over this strew some river or drift sand, to the thickness of one inch ; and on this mark the position each bulb is to occupy, by means of a rod or line, about eight inches asunder ; then take the bulbs, one by one, and press them lightly into the compost, and surround each by a small portion of sand, to prevent the soil coming in contact with them : after this is accurately finished, cover in over the bulbs, to the depth of five or six inches, with prepared compost, leaving the bed from eight to ten inches above the ground-level, when completed.

Hyacinth beds should be covered during severe weather, with rotten fern, decayed leaves, or tanner's bark, putting it on when necessary, and removing it when the weather will permit. Too careful covering is injurious, as it is apt to deprive the roots of the influence of the sun and air.

About the beginning of April the beds will require shading, especially those containing the fine and rare sorts; for these being more delicate, will be more liable to become injured by the rays of the sun, particularly the red and deep blue-coloured ones. This may be done by means of mats and hoops, or an awning of canvas, which may be rolled up or let down at pleasure: the latter will also protect them from heavy rains, and will be by far the neatest in appearance.

Taking up the Bulbs. As soon as the bulbs have done flowering, they may be carefully taken up, the roots and leaves being injured as little as possible; and they may be carefully potted in drift sand, or any other sandy soil (the pots commonly used are cylindrical or bulb pots), and when that is completed, take them to the greenhouse, or any convenient place where they may be shaded for a few days, and afterwards have free exposure to light and air: a back shelf of a greenhouse facing the north is the most appropriate for them; for if placed in a sunny situation, they would dry off too hastily and become injured, should they be in a growing state at the time of taking up. It is requisite to give them a good watering as soon as they are potted, removing them directly to their station, and in this state they are to remain until the season of planting again arrives, when they must be taken from their resting-place, and carefully examined and cleaned; they will then be fit for re-planting.

Previous to planting the bed the second year, take out the bottom spit and replace it with some new compost, mixing the old and new together from the bottom; then plant as before recommended, covering the bulbs with the fresh compost. Under this treatment I have seen them growing vigorously, and blooming in great profusion, for seven or eight successive years, in England.

In preparing the compost already alluded to, take the top spit of light sandy loam, ten or twelve inches deep from a pasture field; with about one part of this, add one part of drift, or sea, or any sharp sand, that is not contaminated with iron, and the same quantity of well-rotted cow-dung, which has been fully exposed to the sun and air, for at least two or more years; the lack of cow-dung may be supplied with leaf mould: the whole should be mixed in a heap, in a dry sunny exposure, and be there suffered to lie several months, or even a whole year, before using; it should, moreover, be frequently turned, in order to pulverise and sweeten it. It is important that the cow-dung should be as pure as possible, without any admixture of horse-dung, or litter of any sort, as these are found to be favourable to the growth of a sort of fungus, which greatly injures and often destroys the bulbs.

THE TULIP.—The tulip is one of the choicest among florists' flowers, and its cultivation has accordingly been long an object of extraordinary attention. M. Trippet observes that the tulip grows naturally on the Savoy mountains, and in the neighbourhood of Nice. As observed respecting the hyacinth, the Dutch have also been long celebrated for their skill in the cultivation of the tulip. This flower is supposed to have reached Europe in 1559, and we are informed that it was cultivated in England as soon after as 1577, but not with that enthusiasm which characterised the cultivators on the Continent.

Planting the full-grown Bulbs. A good tulip bulb ought to be solid, and rather bulging at the lower end and somewhat tapering and pointed at the crown, or other extremity, without any mouldiness or soft points, and covered with a brown skin: a portion of this brown skin, immediately before planting, should be peeled off, so as to leave the crown white and fresh; and great care must be taken not to wound or bruise the bulb, or the crown, for this will infallibly produce canker, and probably occasion the rotting away of the whole bulb.

The aspect most advantageous for flowering is one that is open and airy, so that the plants may have the full benefit of sunshine during the whole day, in the early stages of their growth. At the same time, it ought not to be exposed to the north and east winds, which would tend much to injure the leaves in the spring, and would consequently affect the beauty of the blooms.

The bed should be excavated to the depth of two feet; then place a stratum of well rotted cow-dung about six inches in thickness, and well mix it with the mould below that depth; then fill the bed with compost, prepared in the same manner as recommended for the hyacinth: when quite ready for planting, strew over the bed, about one inch in thickness of sand, mark out the rows about six inches asunder, and then press your bulbs lightly in the soil, and around each bulb place a little clean sand: after the whole of this task is completed, cover them in to the depth of three or four inches; never plant with a dibble, as is often practised, for it is quite absurd: if not convenient to plant as recommended, drills might be made, which should be three inches deep, and the bulbs may be placed in them; cover them lightly with soil, as it will admit of the superfluous water passing off more readily than if rendered hard and close.

Protection. As many of the common kinds of tulip are not worth protecting, it would be needless for the cultivator to go to any expense or trouble with them, while, on the other hand, the fine delicate sorts will amply repay for any trouble of this kind.

After planting, the bed should be hooped over, and mats or canvas kept ready at hand, to protect it from heavy rains or severe frosts. Too long or too frequent covering, however, will prevent and obstruct the influence of the air on the roots, and cause the plants to grow weakly; moderate rains and slight frost are more beneficial than injurious. It might be alleged that it would be better to put up the awning at once, but with this I do not agree. It would draw the plants up too much; they require to have the full influence of the sun and air, until the colours of the flowers begin to show; the hoops should then be removed, and the awning put up, for exposure at this time to either sun or rains would cause the colours to run and mix, and in this way would spoil the beauty of the flowers.

Taking up the Bulbs. The common kinds of tulips may be removed with care as soon as they have done flowering, if their place be required for a succession of flowers; they must be carefully taken up with a trowel or fork, but not by a spade, for fear of injuring the bulbs, and the seed-vessel should be removed just at the top of the flower-stalk; then lay them in by the bulbs, covering them as deep as before, but not deeper; the place selected for them must be in a north or shady aspect, and they must be allowed to remain until they are quite ripe, which will be about August, when they should be taken up and removed to some convenient place to get perfectly dry, before putting them away: if put away damp, they would doubtless get mouldy and rot. The best sorts should be allowed to remain in the bed, to ripen; and if it is not wished to save any seed from them, the seed-vessel should be removed as soon as the flowers fall. If this plan be adopted, the bulbs will become firm and ripe, instead of being gorged with sap, and unfit for storing away.

The compost most suitable for tulips is the top spit of good yellow loam, taken to the depth of one foot from a rich pasture; add two-thirds of this to one-third of well-rotted cow-dung, or decayed leaves, with a small portion of drift or river sand; the whole should be incorporated in a heap in some dry sunny exposure, not in the shade, as by some is ignorantly directed, and it should be frequently turned for at least twelve months before it will be fit for use.

(To be continued.)

THE MANAGEMENT OF GREENHOUSE RHODODENDRONS.

These beautiful plants are, beyond question, the most ornamental objects a greenhouse can contain in the early spring months, exceeding even the Azaleas when flowered in perfection, their large and ample foliage heightening to a degree of unsurpassable loveliness the vivid or delicate tints of the very specious flowers, to say nothing of the noble habit of the plant itself: how is it then that we so seldom meet with them, so rarely indeed, that their presence is rather the exception than, as it should be, the rule? I know no other reason to be assigned, than the too frequent complaints of a failure in the flowering. To prevent as far as possible the recurrence of these disappointments is my object in this paper; for I hold it unpardonable in those possessing a knowledge of the proper management of a tribe of plants having so many claims to attention, to suffer them to fall into disrepute from neglecting to make that necessary knowledge known.

The management of Rhododendrons is in itself extremely simple when understood; yet to explain it, I must be allowed to go through it in a concise manner. These, like most other American shrubs, delight in light fibrous heath-mould, and should be allowed plenty of it; for they are not fond of frequent shifting: repotting should be performed immediately after blooming, that is to say, as soon as the flowers begin to fade, all the additional stimuli are then thrown into the production of a rich luxuriant growth, on which are based all future expectations; while growing, the plants should be kept in a temperature of about 55° or 60°, and receive a very liberal supply of water: this usually occurs about the latter end of April and beginning of May, sometimes a week or two later, according to the period of flowering, and the formation of the new wood generally occupies from three to four weeks. After which follows the most particular point of their management: if the watering and warm temperature is continued beyond the period necessary for the due completion of this first growth, another production of new wood immediately follows, which is the sole cause of the non-production of flowers: the prevention of this second growth is what consequently requires the cultivator's most particular attention, and is almost the only important point in their culture. It must, however, be observed, that it is necessary to get the first formed wood as large and strong as possible, or puny and few will be the flowers; but it is also equally necessary to discontinue the watering, and to place the plants in a cool situation out of doors immediately it is completed: to do this exactly at the right time requires some considerable amount of practical skill; but when once ascertained correctly, every thing is perfectly easy; the plants then only require just enough water to preserve them from flagging. During the heat of summer, and at the usual time of housing plants, a warm situation in the greenhouse should be secured them. If an early bloom is required, they may be placed in a gentle heat directly after Christmas, though this is better avoided, from the trouble it causes to properly check and ripen the first growth; because at that early period of the season in which forced wood will be produced, it is not safe to place them out of doors, and a green-house is seldom cool enough to prevent the second growth.

It must be understood, all that has been said relates only to mature flowering plants. The propagation and management of young plants being more particularly a nurseryman's business, I have said nothing of it, though there is no material difference, except that, as it will of course be desired to have them as large as possible in the shortest possible time, the second growth may be encouraged rather than prevented.

Anglicus.

LIST OF ORCHIDEÆ.

(*Continued from page* 84.)

182. *Huntleya violacea.* This plant is destitute of bulbs: its leaves are nearly two feet long, and two inches broad; the flowers are produced on a short repent stem from eight to ten inches long, they are of a pale violet blue colour. This species requires plenty of pot room in a mixture of turfy peat, sphagnum, and a little charcoal; the peat should be in small lumps; it requires plenty of water when in a growing state, with a temperature of 75°. — *A Native of Demerara.*

183. *Huntleya meleagris.* This is also destitute of bulbs, and very similar in growth to the above, only the leaves are rather broader, and the flowers are of a darker blue; the same treatment and temperature will do for this as for the other. — *A Native of Brazil.*

184. *Huntleya sessiliflora.* This, too, has no bulbs; its habit is very different to the others, being much dwarfer; its leaves are not more than ten inches long, and two inches broad, ending with an acute point. This genus only contains three species at present belonging to that tribe of plants which require water all the year round, on account of having no pseudo-bulbs to supply them with nourishment, during the time they are at rest; they thrive best in a high temperature, and a damp atmosphere. These are rare and valuable plants, and should be in every collection.

185. *Hartwegia purpurea.* This is another that is destitute of bulbs; its leaves are produced on a short foot-stalk, and are of a dark green, a little speckled, the flower spike slender, directed upwards, about 8 inches long, supporting a few rosy purplish flowers; it is of no great beauty, but may be grown on a log of wood, or in a pot with the usual mixture, allowing but little water, and a temperature 60° to 65°.—*A native of Mexico.*

186. *Houlletia Brocklehurstiana.* Plant pseudo-bulbous, bulbs three inches long, ovate, deeply furrowed and clothed with large lacerated scales; its leaves are produced singly, of a broad lanceolate form, borne on a long cylindrical foot-stalk; the flower spike usually bears from six to eight flowers, the sepals and petals of which are nearly uniform, of a rich fulvous colour spotted all over, the outside paler; the labellum yellow, spotted with purple, sometimes the terminal lobe is almost wholly purple. It requires pot cultivation, in a mixture of turfy peat, sphagnum, and little lumps of charcoal, and when growing should have a liberal supply of water, in addition to frequent syringing, temperature 65° to 70°.—*A native of Brazil.*

187. *Leptotes bicolor.* Plant destitute of bulbs, leaves borne on a short foot-stalk, and of a rush-like form, four inches long, with a deep furrow along the upper side; the flowers are produced in threes and fours, the sepals and petals pure white, a little curved outwards round the margin; the labellum long and also curved, white, with a large blotch of purple. This species should have pot cultivation, in a mixture of sphagnum, turfy peat, and rotten wood: it may be grown on a chump of wood, but in such cases it will require often watering to keep it moist; the temperature should be 65° to 70°. — *A Native of Brazil.*

188. *Leptotes concolor.* This species is very similar to the above, but hardly so strong growing, the plant itself is of a darker colour: it requires the same treatment and temperature. — *A Native of Brazil.*

189. *Leptotes serrulata.* This is a dwarfer growing plant than either of the others, with larger flowers of the same form and colour. This genus contains but these three species at present; they are all beautiful objects, and pot cultivation seems most suitable for them, although, as before stated, they

may be grown on lumps of wood, yet the enfeebling effect of drought on the roots when thus exposed is much to be feared, and consequently is better avoided by placing them in pots.

190. *Lycaste macrophyllum.* Plant pseudo-bulbous, bulbs three inches long, ovate, angular; leaves in pairs, nearly three feet long and five inches broad; the flowers are borne on a stem six inches long, and are solitary, sepals oblong, lanceolate, of a pale green, petals nearly white, smaller than the sepals, and of a cucullate form; labellum fringed, white spotted a little with purple. This species is of very strong growth, and is worthy of being in every collection: it requires pot cultivation in a mixture of sphagnum, turfy peat, rotten wood, and a little charcoal with a liberal supply of water when growing, temperature 65°. — *A Native of Columbia.*

191. *Lycaste Deppeii.* Plant pseudo-bulbous, bulbs ovate, angles rounded, leaves oblong, lanceolate, usually from eighteen inches to two feet long; flowers erect, single; sepals oblong, lanceolate, green spotted with purplish red; petals white, smaller than the sepals, spotted and striped with crimson; labellum three-lobed, of a bright orange, the two side lobes spotted and striped with crimson. This species requires the same cultivation as the above. — *A Native of Xalapa.*

192. *Lycaste plana.* Plant pseudo-bulbous, bulbs three inches long, ovate, angular; leaves in pairs, nearly three feet long; the flowers are similar in colour to *L. macrophyllum,* but altogether more beautiful than that species, as it possesses more the rich red wine-colour, so conspicuous in the lip; and requires the same treatment. — *A Native of Bolanos.*

JOHN HENSHALL, K—P—Y.

(*To be continued.*)

LIST OF NEW PLANTS.

ORCHIDACEÆ. — *Gynandria Monandria.*

Cattleya superba. A very splendid species of Cattleya and a fragrant one. It was detected in British Guiana by Mr. Schomburgh, and by him living plants were sent to Messrs. Loddiges, who flowered them in 1838. Its discoverer remembers that in beauty, odour, and duration, it is not to be surpassed by any orchideous plant, the odour in the morning and evening becoming too powerful for a confined place, and its splendid flowers last for two or three weeks. The stem or pseudo-bulb is six to eight inches long, terminated by two broadly oblong, dark green leaves, from between which rises the peduncle bearing four or five large handsome fragrant flowers; the sepals spreading, oblong, rather acute, full rose-colour; petals resembling them except that they are broader upwards; the lip is remarkable for its deep purple-red colour, paler at the edges of the side-lobes and on the disk, where it becomes yellowish, and is marked with elevated lines. — *Bot. Mag.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Epidendrum vitellinum. This is one of the pseudo-bulbous section of Epidendra, and has finer and broader foliage than is usual among them; from its kindred species it is readily recognised in the peculiar appearance communicated by the glaucous bloom which overspreads the leaves; the flower-spike proceeds from the apex of the bulb, and bears from ten to fifteen large orange-red flowers, the sepals and petals being of that colour, while the lip is bright yellow. It was received from Oaxaca by Messrs. Loddiges about four years ago. It appears to attain a greater degree of luxuriance when grown in a pot, in a compost of heath-soil of a loose texture, having some potsherds mixed up with it, than when attached to a block of wood. In a wild state it is usually found in elevated situations, and therefore does not seem to require a high temperature. — *Pax. Mag. Bot.*

APOCYNACEÆ. — *Pentandria Monogynia.*

Nerium Oleander var. Tanglé. A very beautiful variety of the old *Nerium Oleander*, or rose bay, with striped flowers, resembling a heavy bizarre carnation. Its name implies a Continental origin; it is grown by Messrs. Lane and Son, Nurserymen, of Great Berkhampstead, but they are not acquainted with its history. — *Pax. Mag. Bot.*

ORCHIDACEÆ § VANDEÆ. — *Gynandria Monandria.*

Cymbidium pendulum var. brevilabre. Evidently a variety of the well known *C. pendulum*, differing in the lip being shorter and broader, and having a much blunter middle lobe. It was received by Messrs. Loddiges, from Mr. Cuming, who found it at Sincapore. — *Bot. Reg.*

VACCINIACEÆ. — *Monadelphia Decandria.*

Macleania longiflora. A very showy plant, having something of the general appearance of *Burchelia*. It was collected by Mr. Hartweg, on the main Cordillera, near Loxa, at an elevation of about 8000 feet above the sea, and will require to be kept in a warm greenhouse. It may be potted in a compost of sandy loam and peat in equal quantities. Owing to its producing very fleshy roots, a large pot or tub will be required, or, when there is convenience, it is probable it would succeed well if planted out in a conservatory; it requires a liberal supply of water in summer, but very little in winter, and to have it well furnished with young wood from the bottom for flowering; it is necessary to cut it well back early in autumn, in order to have the plant clothed with leaves before the winter. — *Bot. Reg.*

BERBERACEÆ. — *Hexandria Monogynia.*

Berberis tenuifolia. This very rare plant was found by Mr. Hartweg on his first arrival in Mexico, at a place called Taquapam, at the foot of Orizaba, and was raised among the first collection that he sent to the Horticultural Society. It is a hard-wooded graceful greenhouse plant, very apt to run up with a single stem wtthout producing lateral buds, and when that is allowed to happen its beauty is much impaired; to prevent it, binding down so as to check the rise of the sap has been tried with success. Its flowers appear in the latter part of the year (October to December), and are agreeably sweet-scented: they are yellow, borne on a long half-pendant raceme. — *Bot. Reg.*

ROSACEÆ § QUILLAJÆ. — *Icosandria Pentagynia.*

Lindleya mespiloides. Another of Mr. Hartweg's plants, found by him by the natural bridge called Puente de Dios, forty-five miles N.E. of Real del Monte. It is an evergreen tree of small size, looking very much like *Mespilus grandiflora*, but with flowers as sweet-scented as the hawthorn bloom; in our gardens, the plant seems likely to prove about as hardy as an *Escallonia*, but not more so. Its fine evergreen foliage and large white flowers render it very desirable that it should be able to bear our climate. It remains in flower for a month or six weeks. — *Bot. Reg.*

MALVACEÆ. — *Monadelphia Polyandria.*

Hibiscus Cameroni-fulgens, Garden Variety. A very fine showy hybrid, from Messrs. Rollison's, Tooting, having large pale crimson flowers, and on each division of the corolla an intensely dark crimson spot. It was raised, as the trivial name implies, from hybrid seed of *Hibiscus Cameroni*, a species bearing buff-coloured flowers, and *H. fulgens*, a variety of *H. Rosa sinensis*. We presume it to be a stove shrub. — *Bot. Reg.*

ORCHIDACEÆ § MALAXEÆ. — *Gynandria Monandria.*

Eria bractescens. Mr. Cuming found this at Sincapore, and Mr. Griffith in Burma, near Moulmain. It has a fleshy oblong stem, which bears at the summit two or three leaves, from one and a half to two inches broad, and gradually tapering to the base. Its flowers are, in the Sincapore plant, greenish white, with a lip crimson except at the end; in the Burma plant, they are more straw-coloured than green. The lip is three-lobed, has an abruptly truncated extremity, and is marked with three elevated ridges, of which the two side ones are very short, while the middle one reaches to the end of the lip. — *Bot. Reg.*

ORCHIDEÆ. — *Gynandria Monandria.*

Cattleya intermedia variegata. We have often had occasion to notice how variable are the species of many genera of orchidaceous plants. It seems to be especially the case with those of *Cattleya.* The present one has the elongated pseudo-bulb, the narrow leaves, and the lamellated labellum of *C. intermedia*, but the sepals and petals are much broader (and of a deeper colour than usual); the middle lobe of the lip is white and the lamellæ red. It was sent from Brazil by Mr. Gardner, and flowered in the stove of the Royal Botanic Gardens of Kew, in May 1843. — *Bot. Mag.*

RUBIACEÆ § HEDYOTIDEÆ. — *Pentandria Monogynia.*

Pentas carnea. Our stoves have lately exhibited a fine-flowering plant under the name of SIPANEA *carnea*, introduced by Mr. Makoy of Liege, but which, on examination, must be referred to the genus Pentas, a new one, so named by Mr. Bentham, from the quinary arrangement of the parts of the flower. The plant is about a foot high, scarcely shrubby, branches all herbaceous, rounded, hairy, so also are the leaves; the flowers are produced in large corymbs of a delicate purplish flesh-colour, which when borne upon the several branches of one small plant, exhibit a very lively appearance, and there is almost a continued succession of them for a great part of the year. — *Bot. Mag.*

GESNERIACEÆ. — *Didynamia Angiospermia.*

Drimonia punctata. Introduced by the Horticultural Society through the medium of their collector, Mr. Hartweg. It is cultivated in the Royal Botanic Gardens of Kew to great advantage, in a wire basket, with pieces of wood and turf, and suspended from a beam in a moist stove. In such a situation it thrives admirably, and bears its delicate yellowish or almost primrose-coloured flowers spotted with purple, copiously. As a species it is very different to the *D. serrulata*, MART. (*bicolor*, LIND.) in the shape and marking of the flower, in the short peduncle, and especially in the narrow, not cordate, base of the sepals. — *Bot. Mag.*

ONAGRACEÆ. — *Octandria Monogynia.*

Fuchsia, Queen Victoria, Smith's, Garden hybrid. This lovely variety was raised from seed by Mr. Smith, nurseryman, of Dalston, Middlesex, and elicited considerable attention when it was exhibited at the gardens of the Royal Botanic Society, in the Regent's Park, last July. In a general way, it is after the style of *F. Chandlerii;* but it is a very much superior plant, the habit is stronger and freer, and the foliage larger, while the flowers are far more attractive and of a greater size; their dimensions, in fact, are nearly twice as great as those of *F. Chandlerii*, and the colours are richer and more decided. The sepals are of a pale whitish blush, tinged with green at the tips, long, pointed, and seldom at all reflexed, though expanding well; the corolla is particularly large, and of a deep purplish crimson hue. The plant bears its flowers in great abundance from the axils of its leaves. It will most probably be one of those sorts which look best when kept in a comparatively small state, and hence it will be advisable to propagate it frequently from cuttings, in order to have young specimens. After it begins to grow in the spring, it should never receive a check till it has nearly ceased to flower in the autumn. One of its good properties appears to be that its blossoms do not fall off like those of other Fuchsias, but remain on till they are quite withered. It also bears forcing remarkably well. — *Pax. Mag. Bot.*

BROMELIACEÆ. — *Hexandria Monogynia.*

Barbacenia squamata. For the introduction of this plant, cultivators are indebted to Messrs. Veitch and Sons, of Exeter, whose collector, Mr. Lobb, forwarded seeds from Brazil in 1841. The genus *Barbacenia* has been long known to the admirers of plants through the *B. purpurea*, another Brazilian species of considerable merit, and through the more recently introduced *B. gracilis.* These are all that have yet been received in England, though twelve species are mentioned by Martius in his *Plantarum Brasiliensis.* They are found growing in arid situations on mountains, at an elevation of from 1000 to 1500 feet, and only between the 14th and 23d degrees of latitude. Most of the species — and amongst them the present — have long narrow leaves collected on a short stem into a tuft, and when without their flowers have an appearance resembling some of our mountain sedges. The flowers are solitary, on long slender footstalks, the tube and sepals of a pale bright orange, and the petals the same colour, but of a darker shade. Few plants are able to bear the want of water for a longer period without sustaining injury, and, except during the period of the most active growth, much moisture appears to be inimical to their welfare. They require a warm moist heat to start them in spring, but a cool and dry situation is necessary to induce them to develop an abundance of bloom, and to preserve them through the winter. — *Pax. Mag. Bot.*

ERICACEÆ. — *Octandria Monogynia.*

Erica Murryana. A hybrid raised by Mr. A. Turnbull, of Bothwell Castle gardens, near Hamilton, Scotland. It is between *E. aristata minor* and *E. vestita coccinea*, possessing much of the habit of the former, and the brilliant flowers of the latter, but differing in a terminal and less dense head. It is a fine variety. — *Pax. Mag. Bot.*

PLUMBAGINEÆ. — *Pentandria Pentagynia.*

Statice Pseudo-armeria. A very handsome greenhouse species, having small neat foliage, and large dense heads of bright pink flowers, probably the easiest to manage, and the most showy of the whole genus.

Respecting its native place we have been unable to gather any information. Messrs. Rollison received plants of it from the *Jardin des Plantes* in Paris in the summer of 1841. But these were unaccompanied by any memoranda. Probably with several other members of the genus, it is a native of the South of Europe. — *Pax. Mag. Bot.*

VISITS TO REMARKABLE PLACES.

The *Fence, Macclesfield, the seat of T. Brocklehurst, Esq.* — A large collection of Orchidaceous plants is here located from all parts, in rich luxuriance. The principal point in their cultivation and which we have not seen elsewhere, except in our own practice, is the constant and necessary supply of moisture to the atmosphere, by means of cisterns or wide troughs containing water, which stand on and cover the whole of the stage on which the plants are arranged; it is well known to all acquainted with the management of this beautiful and curious tribe of plants, that without a regular and controllable supply of moisture while growing, success with Orchidaceæ is nearly hopeless; and knowing this, we much wonder that a more efficient system of supplying it than the usual laborious, and often injurious one of syringing, has not been more generally resorted to. It is not a sudden and saturating supply that is required, but a constant and genial amount of aqueous matter in the atmosphere sufficient for the support of the plants, but not more than they can imbibe without injury: aided by these wide troughs holding water to the depth of about an inch, the cultivator may secure a damp atmosphere; and with the addition of a gentle steaming from the heating apparatus at night, will find the syringe almost unnecessary: with us the plants stand in the water of the troughs, and thus moisture is given to the roots as well as to the atmosphere, nor do we find any ill effects from what at first sight will appear an excess, but, on the contrary, a strong growth is the usual result. At the Fence, however, the plants are elevated three or four inches above the water, which removes all apprehension of the kind alluded to. We observed the following plants in flower at the time of our visit.

Aspasia nova sp., from Panama, fine specimen; Bletia florida; Brassia Lanceana; Brassavola venusta; B. angustata, fine; Cyrtopodium Andersonii, fine specimen, with three spikes; Dendrobium nobile; D. cærulescens, both large; D. elongatum; D. Pierardi; D. cambridgense; Dicrypta iridifolia; Epidendrum ellipticum; E. elongatum; E. crassifolium; E. capitatum; E. nocturnum latifolium; E. nocturnum angustifolium; E. nova species, from Panama; Eria pedunculata; E. pubescens; E. stellata; Gongora atropurpurea, G. maculata, G. maculata fulva, all very fine specimens; Govenia superba, very fine spike of sweet-scented flowers; Lycaste macrophylla; L. cruenta; Oncidium longifolium, two fine varieties; O. ascendens; O. ampliatum, a fine specimen, with three strong spikes; O. reflexum; O. luridum; Phaius grandifolius, three fine specimens; Ph. Wallichianus, a noble plant, with three strong spikes of large handsome flowers.

TO CORRESPONDENTS.

C. S., Abergavenny. — Every application of Guano is an experiment, no two samples being of the same quality, and this it is that renders it so extremely difficult to determine the exact proportion to be used, that we constantly hesitate to recommend it for horticultural purposes; however, as you are so desirous of trying it, begin with a pound in eight or nine gallons of water: you can then increase or diminish the quantity as the result may seem to require, but be careful of overdoing it: on no account must you water overhead with the solution.

A young Florist. — Tobacco-water will effectually rid your auriculas of greenflies: to prepare it, steep half a pound of strong tobacco in a couple of quarts of hot water, let it stand all night, strain it off, and either dip the heads of the plants into it, or syringe them all over with the preparation; one application will clear them.

X. R. — The above will be the best remedy for a similar pest on your roses, or you may sprinkle snuff over the infested shoots.

A. A., Lowick. — The following are what may be termed standard flowers. The prices we cannot give, but you may obtain them of Brown, of Slough; Thompson, of Iver; Henchman, of Edmonton; or of any respectable provincial Nurseryman.

Brown's Cotherstone.
Curion.
Miss Stainforth.
Cook's Perfection.
Peter Dick.
Duchess of Beaufort.
Silverlock's Prince Albert.
Thompson's Regulator.
Desirable.
Warrior.
Jehu.
Beauty of Bucks.

We have seen some very desirable seedlings which are to come out shortly.

A Manchester Subscriber. — Cobœa scandens will succeed in any light rich soil. To prepare a compost for it, mix equal quantities of loam, leaf-mould, and well-rotted stable manure.

CALENDAR FOR JUNE.

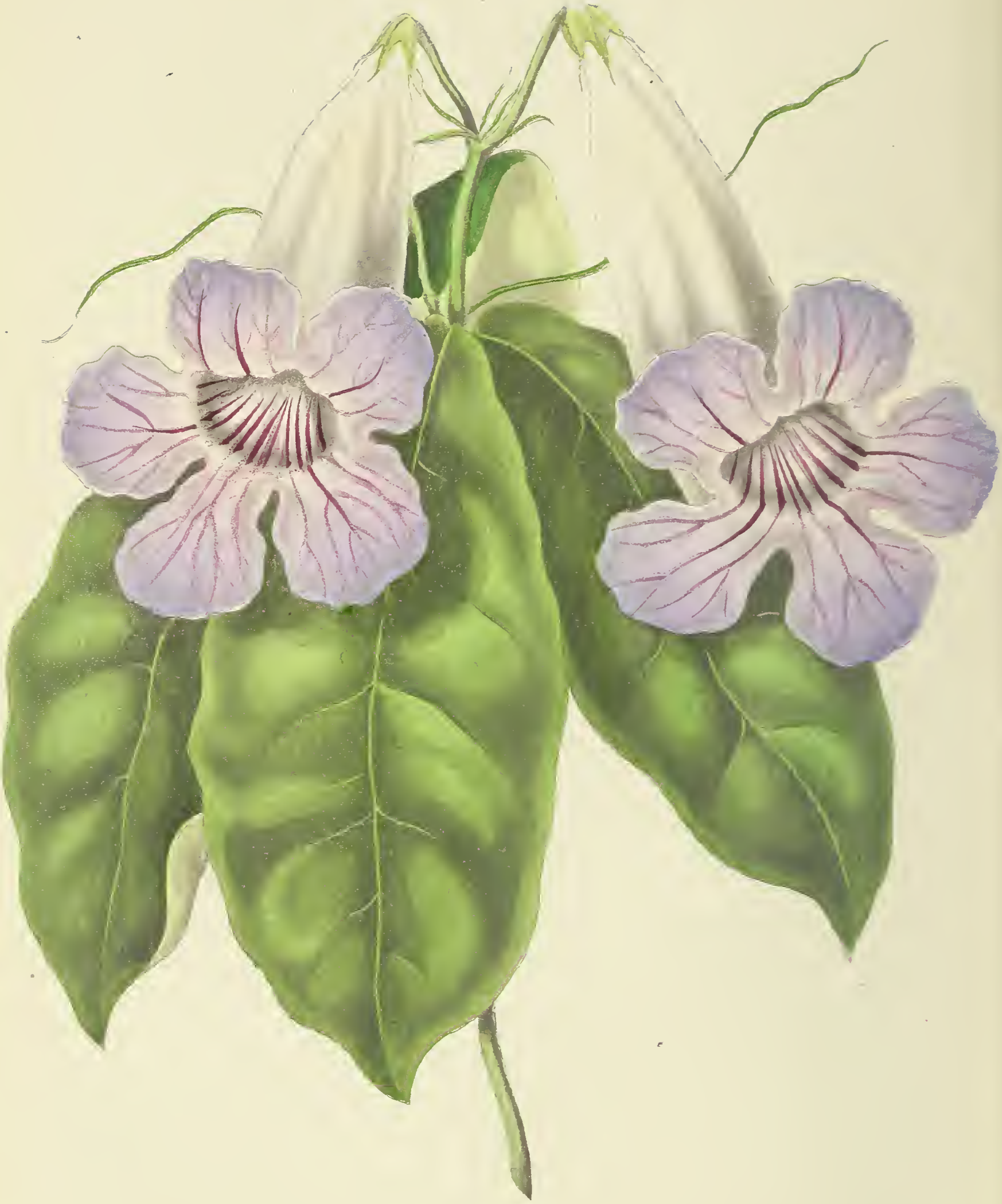
As the past month or two have been the scenes of active preparation and energetic exertion, in laying the foundation of future development, and of encouragement in the first opening vistas of the floral season, — so must the characteristics of the present and the future be responsive to the past; and those who love and admire flowers, and seek to enjoy the pleasure of witnessing with satisfaction the effect of their own past exertions, must bear constantly in mind that the pass-word is "Onward."

Stove. The directions given in former numbers, with respect to the *principles* which should form the guide to safe and successful *practice*, will continue to be applicable with equal force throughout the season of growth. In no case, administer any check to the development of plants at this season; but rather let the growth be rapid, and unobstructed in its course, avoiding only the extreme of excitement, which would be the cause of weak and imperfect growth. Get acquainted with the natural circumstances and conditions of growth of each particular plant, so as to be able by this knowledge to vary to each its proportion of light, heat, shade, and moisture. Continue to attend closely to climbing plants, regulating the branches, and taking away any that may be superfluous; by no means suffer them in the first stages of growth to assume what afterwards may be allowed, " an air of native grace;" keep the house cool at night. Propagation may go on.

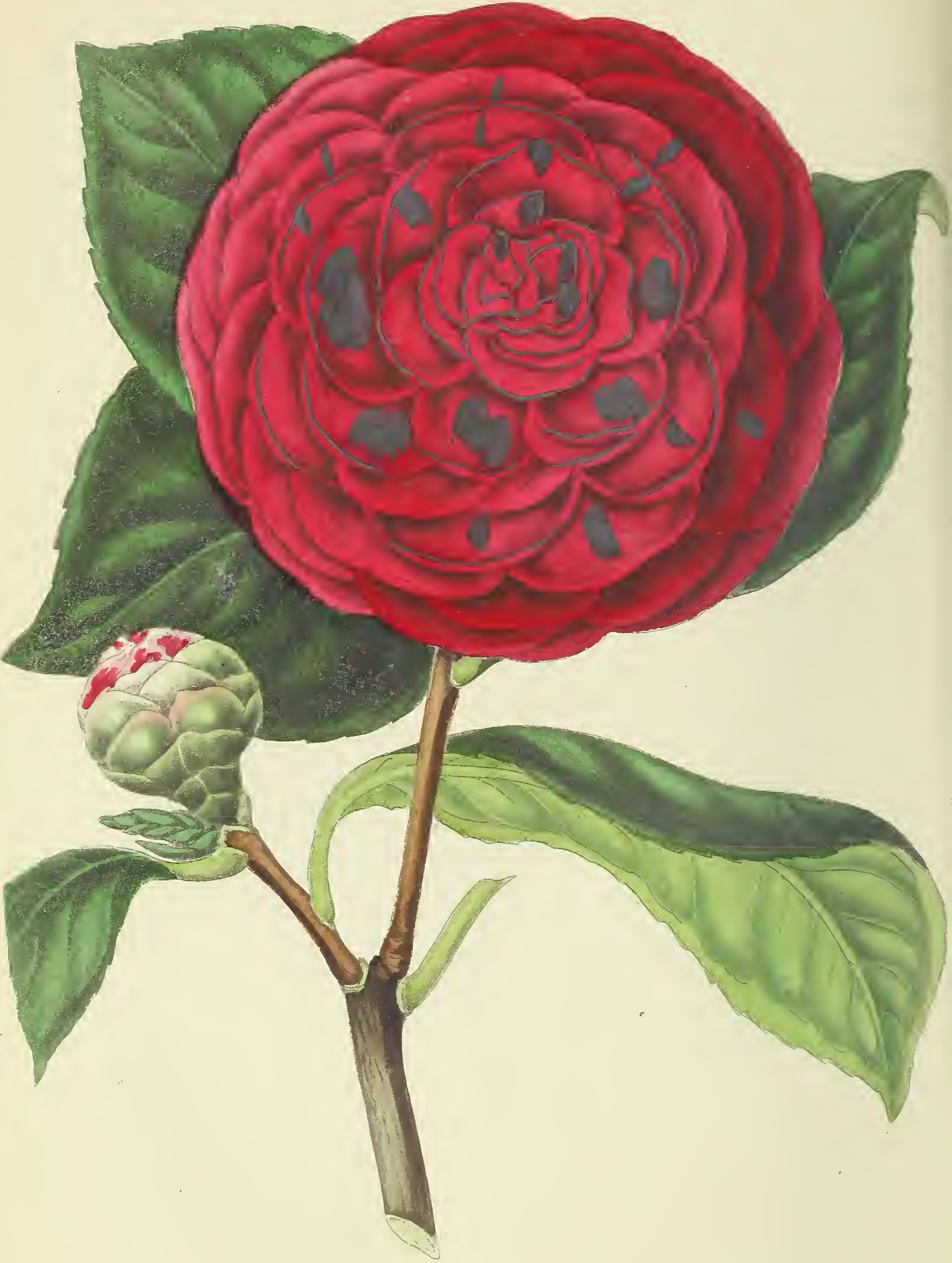
Greenhouse. The bulk of the plants may be removed to the open air; place them in a situation where they may receive a fair share of sun, and by no means in a shaded or very confined situation: the pots should be plunged in some cool light medium—such as coal ashes, to protect the roots from the injury they are liable to sustain from rapid evaporation. The interior must be managed with direct reference to whatever may happen to be its temporary or summer inmates—if some of the rarer greenhouse plants, it should be kept comparatively cool —if tender annuals, it should be kept warm and moist. These two kinds of plants will not do *well* together.

Flower-Garden. Many of the allotted inhabitants of this department will be " out," and growing; many more doubtless remain to " go out," and these should be attended to without delay. Propagate and plan for successional flowers in good variety throughout the season: this, with attention to keeping those already planted out with a neat and gardenesque aspect, will embrace the principal *points* in summer flower-gardening. All delicate flowers should be shaded from intense sun heat, in order to prolong their existence; the best means of doing this would be that plan which, while it secured the end in view, offered the least obstruction to the examination and display of the flowers. Keep a good look out for instances of the transformation of the parts of plants, such as petals changed to leaves, stamens to petals, &c.; these changes are better known under the name of " morphology," and are far more numerous than those who have never thought about them would imagine: send a report of them to the Editor.

T. M.



BIGNONIA PICTA



CAMELLIA HALLEII

THE

FLORIST'S JOURNAL.

JULY, 1844.

ON THE GENUS BIGNONIA.

WITH AN ENGRAVING OF B. PICTA.

THIS fine group of plants, which includes upwards of sixty species, was named in memory of Abbé Mignon, librarian to Louis XIV. The larger portion are climbing plants of acknowledged beauty, having a most extensive geographical range ; the East and West Indies, Mexico, and South America, being the native home of many of our stove kinds, while Northern America has supplied us with others to adorn our conservatories and out-of-door walls.

Notwithstanding this great range of country, the species soon become assimilated in the required treatment, and nearly any or all of them may be grown even together in an intermediate house or cool stove. Their fine pinnate, ternate, or conjugate foliage, and large handsome flowers in panicles of red, blue, yellow, or white, render them eminently beautiful objects for covering the pillars or roof of a plant stove or conservatory. In the latter the majority of the species luxuriate with a degree of splendour seldom witnessed in other genera; this kind of structure seems peculiarly suited to them, first because of the genial, temperately warm atmosphere maintained, and accession of fresh air, and also because of the freedom which may be allowed to their rapidly extending shoots in the growing season.

Extensive as is the genus Bignonia even now, it was considerably larger a few years since, when, by a revision which reduced it in a numerical view, but rendered it more definable, the new genus *Tecoma* was formed, when the well-known hardy *radicans* and its varieties, together with *capensis*, *Pandoræ*, *grandiflora*, *meonantha*, and several other species were referred from Bignonia to it; at the same time we should mention, there are some species of the genera, *Jacaranda*, *Incarvillea*, and *Millingtonia*, which more properly belong to the genus under consideration.

We proceed to enumerate a few of the most ornamental, premising, however, that some of them will be found placed as suitable for a lower temperature than is generally considered necessary, because we have found an excess of heat to be conducive to the production of wood alone, a paucity of flowers frequently following this unnecessary stimulation of the plant.

B. alba, syn. *Jacaranda alba*, is a fine evergreen climber, brought from Guiana in 1823. A sunny situation in the conservatory should be chosen for this, where its lovely white scented flowers will be seen to much advantage.

B. Chamberlaynii, a variety of *equinoctialis* with yellow flowers, is extremely well suited for the topmost part of the roof, as it will extend its branches from 30 to 50 feet; this was introduced in 1820 from Brazil.

B. capreolata is sufficiently hardy to withstand our ordinary winters in the open air, even without protection; still it is the safer plan to plant it against a wall having a southern aspect, and to adopt the usual precautionary method of covering with mats in severe weather; a warm situation such as described is necessary to enable the plant to produce its fine scarlet flowers. This plant is described as having a most beautiful appearance when seen in its native haunts, the rocks and forests of North America, where it attracted attention and was brought here in 1710.

B. grandifolia. This is another extremely fine conservatory species, readily extending over a large space; it seems to require age alone, to enable it to flower well: the colours of the flowers are an indescribable mixture of orange and purple. There are several species which, like this one, require to attain a certain age before they put forth flowers in any quantity; nor will any known treatment induce them to a precocious development, so that many really fine and desirable kinds have been absurdly condemned and destroyed, before they have had a fair chance of displaying their proper characters; this should be borne in mind by those who cultivate Bignonias.

B. jasminifolia and *B. jasminoides* are both beautiful, the first a white flowering species of rather smaller habit, requiring the stove to produce it in perfection ; it was brought from Orinoco in 1826. And the latter having purple flowers, will succeed very well in a common greenhouse, being a native of Moreton Bay, whence it was imported in 1830.

B. picta, the subject of our present illustration, is supposed to be a native of Buenos-Ayres, or the adjacent parts of South America : though the history of its introduction is very obscure, the year 1823 may be set down as the date of its first appearance. It did not produce flowers until last season (1843), when it first appeared in the stove at Messrs. Rollinson's Nursery, Tooting, whence we obtained the flowers which form our drawing, and where about a month or six weeks since it was producing freely its fine lilac and purple striped flowers. They are borne in pairs, on nearly all parts of the plant, standing forward from among the foliage, on short lateral branches. The habit of the plant is of a less rambling character than is usual among the species, being compact, neat, and interesting, too large for a moveable trellis, but particularly adapted to the bottom of the rafters or front of the house : although growing at present in the stove, there appears to be every probability of its succeeding as well or better in a cooler temperature ; indeed it has been conjectured from its natural habitat, that it will prove as hardy as *B. capreolata ;* but if we take an intermediate station for it in the greenhouse, where it will be a fine acquisition, there is no doubt of its succeeding.

Besides the climbing kinds, there are one or two species which assume a more arborescent character, and are worth attention : the first of them, *B. Leucoxylon*, is a stove evergreen tree, producing large pink trumpet-shaped flowers. It is a very old plant, though nearly out of cultivation at the present time, having been brought from the West Indies in 1759.

B. serratifolia, another fine shrub-like species, has very handsome yellow flowers which contrast prettily with its bright green serrated foliage : this too requires a stove treatment, having been brought from Cuba in 1822.

B. suberosa, syn. *Millingtonia hortensis*, is an interesting plant, attaining a considerable size ; the flowers are white, agreeably scented, and produced copiously when the plant is allowed a sufficient degree of heat. Being a native of the East

Indies it requires the warmest part of the plant stove: this perhaps, and the large space it occupies when grown well, has been the principal cause for rejecting it. from the generality of collections; still where room can be allowed, it is a desirable plant.

The general management of Bignonia is extremely simple and uniform; all the species, whether climbers or not, delight in rich fibrous loam, with which a small portion of heath mould may be mixed in order to preserve it open and permeable to the roots. The climbing species grow most luxuriantly, and consequently arrive at a flowering state earlier, when planted in the borders of the house which they are intended to ornament: they should be pruned annually, the best season for which is September and October, when all unripe or immature wood should be cut away, so that the remaining portion may have the full influence of light and air, as it frequently happens that when the branches are left in a crowded state mildew attacks them, and the growth of the succeeding year is weak and unfruitful. The management of arborescent kinds differs in no respect from that usual for other stove plants, while the treatment of the hardy and deciduous species may be assimilated correctly with that usual for the grape vine.

Editor.

THE EFFECTS OF THE SEASON.

Sir,—Florists are privileged to complain of the weather, and to find what faults they please with the seasons, and I, as one, cannot resist the temptation which this privilege offers; for really my experience does not extend to such another as the present. For nearly twenty-seven weeks *we* have not had so much rain as would form a good shower, and in consequence every class of vegetation out of doors is fast losing that active vitality so necessary to the production of flowers and seed, and which we look for and admire so much at this season. Watering and the application of mulch, or manure, can only be regarded as a means to defer the evil; they will not, cannot impart the vigour that a single shower of rain would: still, such is the only remedy, and therefore must claim, and be allowed the first attention. In this neighbourhood Ranunculuses, Pinks, Carnations and Picotees, are all suffering severely; my bed of the first is a complete failure,—the greater portion of the plants are dead,—and those which still exist are too weak to produce even an average flower.

The grass of the Pinks is small, though not so bad as might have been expected; this I attribute to the mulching, which, by preventing the evaporation of moisture from the bed, has contributed greatly to the benefit of the plants; but strange to state, not a single flower on a bed containing nearly two hundred plants, has produced a particle of "lacing," so that the entire bloom is utterly useless for showing; from my whole stock I cannot cut six blooms in a perfect state. Carnations and Picotees are failing rapidly before this arid atmosphere, and the ravages of the green fly. Roses, too, are literally covered with them; as an antidote to these pests I have used a variety of "infallible receipts," but find nothing better than tobacco, either in solution or powder: the tobacco water I prefer where it can be used, and in cases where it is not suitable I apply snuff. Camphoretted spirits, diluted with water, I have found efficacious, but the expense of the article will prevent its general adoption. Ammonia has scarcely any effect upon them, as they will live in a closely stopped vial containing hartshorn. Knowing the effect of oil on some individuals of the beetle tribe I was induced to try it on these destructive insects, but to my cost I found that in proving fatal to the green flies, it exercised a similar agency on the leaves and young wood of the roses.

But to mention at once the cause of my now troubling you, — the failure of my Ranunculuses I imagine to be owing chiefly to the fall of rain we experienced towards the close of last season, which probably occasioned a re-action of the roots before they could be got out of the ground; and to prevent a recurrence of the weakening effects of this second growth, I feel inclined to take up the roots, on the first approach of wet weather, hoping thus to save such as are still in existence. On this point I shall be thankful for a little advice, — as also some information as to the cause or causes of the entire absence of colouring round the margins of the petals of the pinks. I am aware that spring planting frequently produces a similar result; but in this case the planting was done in October, after the most approved mode; — perhaps some of your correspondents, who have had experience on this matter, will assign a reason, and thus oblige

A CONSTANT READER IN SUSSEX.

June 14, 1844.

[We insert the above letter entire, as it at once conveys information, and opens a matter of much consequence for inquiry. With respect to the Ranunculi we think our correspondent cannot do better than he proposes. The want of the due proportion of lacing in Pinks is a source of frequent disappointment to florists, and as we think the cause of it well worthy consideration, for which purpose we defer it for the present, and shall be glad to receive the opinions of our friends on the subject.—ED.]

LIST OF ORCHIDEÆ.

(*Continued from page* 114.)

193. *Lycaste tetragona* (four-angled). Plant pseudo-bulbous, bulb three inches long, tapering towards the summit; leaves single, one foot long, of a lanceolate shape; flowers borne on a short stem, proceeding from the base of the bulb, four to five in number; sepals and petals pale green, flamed with brown, the former broader than the latter, and ending in an acute point; the labellum is singularly shaped in the form of a jug, white on the outside with a blotch of purple on the apex, the inside dark purple; the flower possesses a disagreeable scent. This is a singular species, requiring to be grown in a mixture of sphagnum, turfy peat, and rotten wood or charcoal, and should be elevated a little above the rim of the pot. It requires but a scanty supply of water, with a temperature of 65° to 70°.—*Native of Brazil.*

194. *Lycaste cruenta.* (Derived from blood colour.) Plant pseudo-bulbous, bulbs very similar in growth to *L. aromatica*; the flowers are a great deal larger, and produced in clusters from the base of the bulb; the flower stalk is from three to four inches long; the sepals are yellowish green, and the petals are orange, with a few dark red spots at the base; the labellum orange, spotted at the base with blood colour. This species is well worth growing on account of its free habit of flowering. It requires the same treatment and temperature as the above.—*Native of Brazil.*

195. *Lycaste aromatica.* Plant pseudo-bulbous; bulbs nearly three inches long, rather broad; leaves ovate-lanceolate; flowers produced in clusters; sepals greenish yellow; petals orange colour; labellum orange; with a very powerful scent of cinnamon, particularly early in the morning. It requires the same treatment and temperature as the others.—*Native of Mexico.*

196. *Lycaste Skinnerii.* Plant pseudo-bulbous; bulbs ovate, and four-angled, of a dark green colour; leaves one foot long, ovate-lanceolate; flower stem nearly erect; sepals nearly three inches long, of a dirty white; petals of nearly the same colour; labellum white, beautifully spotted with purple along the throat. This is one of the handsomest of the entire genus, and exceedingly scarce at present. It appears to sport a great deal in the colour of the flowers, nearly all of those that have yet flowered having exhibited

some difference in regard to the colour. It succeeds well under the treatment recommended for the others.—*Native of Guatemala.*

[This genus is a division from Maxillaria, and has lately been arranged by Dr. Lindley.]

197. *Lælia albida.* Plant pseudo-bulbous; bulbs two inches long, round, somewhat wrinkled, and tapering a little towards the summit; leaves nearly one foot long; flowers produced on a spike rising from the summit of the bulb, of a pure white, having the centre of the labellum marked with yellow, surrounded with a slight stain of purple. This is a fine species, requiring a low temperature, with a liberal supply of moisture. It will do either on a block of wood, with a little moss tied round, or in a pot in a mixture of sphagnum, rotten wood, and a little turfy peat, with a temperature of 60° to 64° while growing. — *Native of Bolanos.*

198. *Lælia acuminata.* (Derived from tapering.) Plant pseudo-bulbous; bulbs two inches long, rather flat; leaves four inches long, and nearly three inches broad; flower-spike rising from the summit of the bulb; flowers white, slightly stained with purple, having a tinge of sulphur on the labellum, and the throat strangely marked with purple. This is another fine species (called by the natives Flor d'Jesus), which requires hanging upon a log of wood, with a liberal supply of water during its growth; temperature, 60° to 64°. — *Native of Oaxaca.*

199. *Lælia majalis.* Plant pseudo-bulbous; bulbs two inches long, tapering nearly to an acute point; flowers produced singly on a short stem; the sepals and petals rosy lilac; labellum 3-lobed, the two side lobes white, tinged with lilac, and surrounding the column, the other lobe white, stained with rosy purple, with occasionally a darker blotch. The natives call this Flor d'Mayo, or May flower. It requires pot cultivation in a mixture of sphagnum, rotten wood, and turfy peat, with a liberal supply of water while growing, and a temperature of 60° to 64°. — *Native of Bolanos.*

200. *Lælia anceps.* Plant with bulbs five inches long, leaves four inches long, crisp and erect, produced singly on the summit of the bulb; flower-spike two feet long; flowers produced at the extremity; sepals and petals fine lilac; labellum same colour with a fine blotch of rich purple. This is a handsome species well worthy the notice of all cultivators; it does well either on a chump of wood or in a pot: a liberal supply of water must be allowed during its growth, and a temperature of 68° to 74°. — *Native of Oaxaca.*

201. *Lælia anceps var. Barkeriana.* This is a variety of the above: its growth is similar, but its flowers are rather larger as well as richer in the colouring; it requires the same treatment and temperature as the other, and should be in every collection. — *Native of Mexico.*

202. *Lælia cinnabarina.* Plant pseudo-bulbous; bulbs seven inches long, tapering a little to the summit, and stained with a crimson hue: its leaves are produced singly at the summit of the bulb, about eight inches long and a little waved; the flower-spike is also produced from the summit from one to two feet long; the flowers are of an orange red or cinnamon colour, from whence it takes its specific name. This requires pot cultivation, in a mixture of turfy peat, sphagnum, and a little rotten wood; when placed in a moist situation it requires but little water with a temperature of 65° to 70°. — *Native of Brazil.*

203. *Lælia superbiens* (superb-flowered). Plant pseudo-bulbous; bulbs one foot long and rather angled; the leaves are produced mostly in pairs, ten inches long and nearly three inches broad, of a crisp habit; its flower-spike is produced from the summit of the bulb, and in its native country sometimes

grows four yards long, and produces twenty or more flowers near the apex, the sepals lanceolate, equal, white, tinged towards the apex with rosy lilac; labellum three-lobed, the two side lobes yellow edged with purple, the middle lobe yellow tinged with purple, having a darker stain of the same colour in the centre. This is a very strong growing species, requiring to be hung up either on a log or in a basket, in a mixture of turfy peat, sphagnum, and a little rotten wood, and an abundant supply of water during its growing season, with a temperature of about 60° to 64°.— *Native of Guatemala.*

J. Henshall.

(*To be continued.*)

ON THE PREVALENCE OF GANGRENE.

Never in any season previous to the present have we witnessed and heard of the so frequent and deplorable recurrence of sudden deaths among plants of all classes, from the hardy evergreen to the tender and delicate exotic. The majority of the cases which have come under our own observation may be certainly referred to that infectious, sudden, and almost irremediable disease commonly known as gangrene; and, as it appears probable that the evil will be widely and rapidly extended, through the influence of the present hot, dry weather, we think some explanation of the causes may not be ill-timed, and probably be the means of arresting its further progress;—at least in cases where plants are dying, without the cultivator being able to assign any reason, it may assist him to conjecture the cause, a knowledge of which is the first step towards a remedy. Gangrene in the vegetable is analogous to an epidemic in the animal kingdom: it originates in the same cause, acts in a similar manner, and is followed by the same results. There are two kinds of gangrene, the dry and the moist; the first is by far the worst, seldom becoming evident until the death of the plant proclaims it. The symptoms are—a sudden cessation of the vital powers of the plant; the leaves and young shoots assume a black or dark-brown appearance, which extends itself to the inner bark, and is terminated only by the death of the entire plant, and that so suddenly, that we could instance some plants which in the morning were in the most robust health, and before noon were shrivelled bundles of twigs without a leaf on them. This variety of the disease is that which ericaceous plants are peculiarly subject to. It is chiefly occasioned by excessive degrees or changes of the temperature, the effects of a very low temperature and of extreme heat being precisely alike; either of them, it is well known, causing death even when brought about by gradations. How much more violent, then, must be their action, when the change is as sudden as the difference is great; yet such fluctuations we have experienced continually throughout the present season, and to the effects of these changes must be attributed much of the loss which has occurred. In looking for a remedy we must explain that, though the symptoms are visible only in the leaves and branches of the plant, there cannot be a doubt of the effect being first felt by the roots, and it is here the preventive must be applied. Any means which present as likely to ward off the extremes of heat or cold, or the changes spoken of, will be appropriate to the purpose. The fruitful cause of the deaths which we have noticed this season is the exposure of the *pots* in which the plants are growing to the direct rays of the sun, which at times have been sufficiently intense to destroy the vitality of the roots, and consequently of the plant.

Another cause has been, and is, still in active operation—we advert to the dry cutting winds which have been so prevalent since March last, more in effect like the harmattan winds of the coast of Africa: this it is that has proved so destructive to the hardier plants standing in exposed situations.

Sometimes dry gangrene is occasioned by the too rapid growth of a particular branch, which by absorbing the nourishment due to those placed next it, necessarily induces their decay; this, however, is not so deadly in its consequences, and may be checked by a diversion of the sap, either by cutting away entirely the overgrowth, or by pinching off the leading point, which will force it to throw out laterals, and thus reduce the branches to an equal size. It is also caused in some instances by the attacks of parasitical fungi and insects: these, by fixing themselves, the first on the roots, and the latter on the leaves and branches, soon reduce the plant to a state of prostration it seldom recovers from; the removal of the insects is easy, but the fungi are frequently very difficult to eradicate: the only topical application likely to effect the purpose is lime-water; if this fails, the speedy removal of the plant to other and better soil is the only remedy.

Moist gangrene is more partial in its effects, and consequently less dangerous: it is chiefly confined to the leaves, flowers, and fruit, and is known by the parts becoming at first moist and soft, and then dissolving into a foul black ichor; this variety of the disease infects some species of Cacti most particularly, and is very sudden in its action, beginning from a small black spot, which spreads till the whole leaf or branch rots off, or the shrub dies. Aquatic plants frequently suffer from this disease. It may be traced to a variety of causes, in some instances originating in too wet or even too rich a soil, in others by a severe contusion or abrasion of the epidermis; in all cases it is infectious, and should therefore be speedily removed. There does not appear to be any remedy for it; and in point of fact it is impossible there should be, for it is not seen until an entire disruption of the parts affected has taken place: therefore, to prevent its extension, every part of the plant exhibiting the smallest germ of the disease should be cut away on the earliest discovery, or the destruction of the whole plant, and not it alone, but probably others standing near, must inevitably follow.

EDITOR.

AN ENQUIRY INTO THE PRINCIPLES OF ACCUMULATIVE POTTING.

It is no uncommon thing for prejudice to be carried to such an undue extent, as to form a barrier against the admission of truth; and this is nowhere more strikingly demonstrated than in the horticultural world. When any new system is advanced, it is too often hastily condemned as being theoretical in its nature, with the greater inconsistency attached to the objection, from the fact that practical gardeners have much to do with theory, although generally unwilling to admit it. Seasons are not always alike, neither is our practice everywhere the same, for we are often called upon to exercise it in various localities; so that we have to bring into action speculative ideas, where no practical rules exist. Would not, therefore, an acquaintance with the laws which govern the growth of vegetation be of essential service to the gardener? Many of us are successful in our daily operations, owing to the influence of the favourable circumstances under which we are placed (or surrounded), and we do not further trouble ourselves in endeavouring to assign a cause for the result obtained. As regards the theory of the one-shift system, I shall endeavour to show why such successful results have already attended the adoption of that principle: we are fully aware, that the chief source from whence plants derive their food is from the soil (it containing the necessary elements), by the aid of water, and that this important part of vegetable economy may be understood, I shall proceed to an humble attempt of an explanation of the spongiole, which takes up the food for the maintenance of vital action. By an inquiry into the nature of such, we should readily see the beneficial effects which must result to the majority of plants from adopting that system. We are informed by botanists from microscopical investigations, that each of these spongioles has an important office to discharge; their cellular tissues holding carbonic acid in solution, the ducts convey the fluid, while the spiral vessels charged with oxygen take it up for the support of the plant: it must then be obvious to all, that an obstruction, in checking the action or reaction of the spongiole, must tend to produce injurious effects, though ever so minute.

In the removal of a plant from one pot to another, it is found, provided the plant is in good health, that the roots are adhering to the pots, and compressed from the confined space. It is then evident, in the constant repotting of a plant, it must be productive of injurious effects, by tending to disturb the action or crush the vessels of the spongiole. If such take place, it must require time to regain its former vigour. Should the plant have been in a flourishing state, the leaves will soon exhibit signs of the evil: thus, in order to supply the waste which arises from the emission of oxygen, or evaporation which takes place in the leaves, an over-supply of water is resorted to, and the earth in many cases becomes soddened, though the drainage may be good, the spongioles from this check being unable to take up the necessary fluid.

With those plants which have to acquire a large amount of growth in a given space of time the evil must be still greater, as in the Balsam and other tender annuals; and this tends to retard their growth, producing premature flowering. It has been argued, that in applying so great a body of earth to a plant, which requires a length of time before its root can occupy the space allowed, the soil may become impure from the repeated application of water: this must depend on the drainage, or the state of the pot. Though the spongioles are deprived of light, yet the admission of atmospheric air is necessary for their well-doing, as may be plainly seen by their intermixing with the crocks, or clinging to the sides of the pot, on account of their property of absorption. It has been proved, by experience, that plants which required a length of time, by the old system, to form large specimens — for instance, Heaths and Epacrises — have not failed in acquiring the required growth in a much shorter time by the use of large pots.

It has been said, that plants of a more delicate structure have been lost by adopting that plan as a mode of culture; but have not many been lost otherwise? It appears to me that the nicest care is required in the watering, which should be intrusted only to one person. Again, the regulating of such must depend on the nature of your soil: the localities too, in which plants are growing, are either the promoters or retarders of their growth; it cannot be expected that plants will thrive so well where the air is rendered impure by the mixing of various gases, or in confined places or damp seasons, so as to prevent a free current of air passing through them, and thus causing the pots to become encrusted with impure matter, not readily admitting of absorption, for plants will ever depend for their success on the influence of their situation, combined with skill. It is evident, on reflection, that where the roots have not sufficient space to perform freely their respective offices, that in order to supply the deficiency, other organs will become enlarged, so as to weaken the plant, though for a time it may not be visible, such as throwing out a greater number of leaves, in order to provide a remedy by absorption.

That we may work opposite to the laws of nature, and thus produce distortion, and even an alteration of the structure of a plant, is unfortunately too often proved, and a confirmation of it came under my own notice during the past season. Having some plants of Deutzia scabra which had been forced, I was induced to examine the under side of the leaves by a microscope, in order to observe the beautiful phenomena they usually present, when both leaves and flowers were found distorted from their proper and natural characters, evidently the result of the unnatural treatment they had experienced in the course of forcing, for the leaves of other plants growing in the open ground were in possession of their proper characters. The relation between this distorted vegetation and the action of the spongioles in their then altered state, as effected by the change of treatment, I propose to reserve for another communication.

J. F. M'Elroy.

THE CULTURE OF PENTAS CARNEA.

Sir,—This lovely plant, I am persuaded, will be in great requisition, so soon as it has had time to become known, among all who delight in the possession of Flora's gems. Its rapid and proportionable growth, and the immense number and long succession of flowers which it produces, must render it an especial favourite in all collections, more particularly with those cultivators who require a large number of fine plants several times in the season, for exhibiting; the delicate flesh-coloured flowers of this plant affording an agreeable resting-place for the eye, after traversing the more vivid beauties which in such a situation surround it. The habit and date of its introduction you have already given in your notices of new plants, therefore I proceed at once to the cultivation; believing there are many who will receive it this season, without an opportunity of previously acquiring any information as to its habits, to whom these remarks may probably be of service. It was thought when the plant was first brought into notice, from consideration of the situation in which it was found, that a very moderate degree of warmth would be sufficient to produce it in its greatest beauty; but the experience of a season has shown that, though it will exist in a common greenhouse, yet to properly develope its best character, a very warm atmosphere is necessary. My mode of management, which has resulted in very fine plants, is this. The plants were received last December, very small and sickly, in sixty-sized pots. In a fortnight afterwards they were repotted; two of them being placed in large pots at once, and removed to a forcing-pit; the other two were put into pots only one size larger than those they were removed from, and then placed in the plant stove; the soil used being a mixture of peat and loam, with a small proportion of sand. Those subject to the large shift and the influence of the warmer atmosphere made most rapid progress, increasing their size full four times in the course of the first two months, and are now large plants; having been stopped twice, they present dense heads, almost covered with bunches of blossoms: whilst the pair of plants which were treated with small pots and the comparatively cool temperature of the ordinary stove, after having been repotted twice, offer but a weak attenuated appearance; and though they have grown considerably, still, when seen near the others, are decidedly inferior. From this I infer, that, to have them in perfection, it is necessary to start them early, that time may be obtained to allow for stopping the growing shoots at least twice in the course of the season, which is most essential to increase the size of the plant; and, as the corymbs of flowers are produced terminally, by inducing the plant by these means to throw out more branches, we consequently increase the number of heads of flowers: and, from the great difference observable in the appearance of the foliage of the plants that were grown in the warm pit and those in the stove, it seems equally necessary to allow them a temperature of from 65° to 75°, throughout the growing season; but it must be remembered that, in a heat of this amount, the plants will require a situation near the glass, or it is probable the new shoots will speedily become drawn. After the required growth has been obtained, and the flowers are about opening, no better place will be found than the conservatory, where they will remain flowering all the season.

P.

LIST OF NEW PLANTS.

Orchideæ. — *Gynandria Monandria.*

Lælia majalis. Although this beautiful epiphyte has been very liberally distributed, it has, until the present instance, evaded the cultivator's art, and obstinately refused to flower. It is a native of the most temperate parts of Mexico, being found by Mr. Hartweg in San Bartolo, "in situations so elevated that the temperature sometimes falls below the freezing point. This habitat, so unusual for an orchidaceous plant, will go far to explain the ill success that has hitherto attended its cultivation; for while it is easy to imitate the close and humid atmosphere in which most of the tribe are found, it is infinitely more difficult to provide a substitute for the pure air and frequent changes of temperature in which these mountain epiphytes would seem to delight."

The management under which it has flowered with M. D. Llewelyn of Penllergare is as follows: —

"The plant, after being potted in very rough fibrous peat, was kept nearly dry, in a cool plant-house, until its new buds began to swell, when it was removed to a hot and damp stove, water being given regularly until its buds had acquired their full size; after which it was discontinued by degrees, and the plant carried back to a lower temperature. This treatment has been repeated, and under it the entire genus seems to thrive."

The sepals and petals are of an uniform bright lilac. The base of the lip is white, slightly tinged and spotted with lilac, while the expanded portion has the same colour, but of a darker shade, thickly studded with spots and bars of crimson. — *Bot. Reg.*

Caprifoliaceæ. — *Pentandria Monogynia.*

Lonicera diversifolia. In many respects this Himalayan shrub is much like the common fly honeysuckle (*L. Xylosteum*), from which it principally differs in its flowers being nearly or quite stalkless, and much larger. Dr. Wallich first received it from the mountains of Gurwhal; he afterwards procured it from Kamaon. In a wild state it sometimes becomes small-leaved, and approaches the common xylosteum, but its stalkless flowers still distinguish it. It is a hardy middle-sized shrub, which thrives in any good garden soil, and flowers during the months of May and June. It was raised in the garden of the Horticultural Society of London from seeds received from Dr. Royle from the north of India. — *Bot. Reg.*

Orchideæ. — *Gynandria Monandria.*

Epidendrum pterocarpum. We cannot say much as to the beauty of this plant, which flowered with Messrs. Loddiges in December, 1842. It, however, presents a remarkable instance of the formation of broad wings by the fruit, which, when ripe, has three of them of considerable size.

The flowers are a brownish green, with a broad, rolled-up, yellow variegated lip, whose middle lobe is whitish. It is a native of Mexico, and closely allied to E. tessellatum. — *Bot. Reg.*

Orchideæ. — *Gynandria Monandria.*

Disa cornuta. An interesting orchidaceous plant from the Cape of Good Hope, bearing the usual characters of the terrestrial portion of the tribe. The base of the leaves, which are lanceolate, is richly spotted with reddish brown; the stem, including the flower-spike, rises to about a foot in height, the flowers occupying nearly one half of it: they are of a medium size; the two lower sepals are white, and are bent downwards; the upper or middle one is cucullate, or helmet-shaped, violet-coloured, with a green edge concealing the column and petals, and terminating behind in a long green spur or horn, whence the specific name; the petals are small, green, and almost hid; the lip small, spathulate, green, with a large black velvety spot. It was introduced to the Royal Gardens of Kew in the summer of 1843, and bloomed in December of the same year in a cool stove; the plants then died down. But so little is known of the proper mode of treatment for Cape Orchideæ as to make it very uncertain if the same roots will flower a second time in England. — *Bot. Mag.*

Dipsaceæ. — *Diandria Monogynia.*

Morina longifolia. — A very handsome and a hardy plant, possessing much of the general aspect of a *Phlomis.* The flowers are produced in whorls on a spike of about a foot in length; the tube of the flower is white, and the limb, which is divided into five segments, is a deep rose-colour. It is a native of Northern India, being found by Dr. Wallich in Gossam Than, and by Dr. Royle on the mountains of Cashmere; plants have also been found on the Himalayas. — *Bot. Mag.*

Asclepiadeæ. — *Pentandria Monogynia.*

Ceropegia oculata. — Raised in the stove of the Royal Botanic Gardens, Kew, from seeds sent from Bombay. It is extremely handsome, and very curious in the structure of the flowers, which represent the head of a snake, with a green snout and black eye-like spots above the neck or narrow part of the tube. It is a ready growing plant, flourishing in a good heat, and it produces its flowers in September. — *Bot. Mag.*

Orchideæ. — *Gynandria Monandria.*

Lælia superbiens. — One of the most beautiful and at the same time most difficult of all orchidaceous plants known. It is of South-American origin, and has been imported very extensively, both by Mr. Hartweg, the zealous collector of the Horticultural Society, and by Mr. Skinner, from Guatemala. Till the present season, however, its flowers have only been known in this country through dried specimens. About the latter end of February last a fine specimen, grown by Mr. Brewster, gardener to Mrs. Wray, of Oakfield, near Cheltenham, produced its flowers for the first time in this country, and was exhibited at the rooms of the Horticultural Society. The flower scape or stem was about five feet in length, and bore, if we remember rightly, nine flowers, each of which was from five to six inches across, the sepals and petals of a bright rosy lilac; and the lip, which is large and thick, displayed near the apex the most lustrous crimson, shaded and marked towards the base with the richest orange and yellow, forming altogether a mixture of colours the most gorgeous; the only drawback to the general beauty of the plant being the very long, and consequently attenuated, appearance of the flower-stalk.

The situations in which the plants have been chiefly found is growing out of the crevices of rocks in the cooler districts of Guatemala, in places merely sheltered from the keenness of the northern winds; and probably the reason why flowers have not been produced sooner may be correctly assigned to the fact of the specimens first introduced having been subjected to a high temperature, with a close moist atmosphere: these conditions, being more favourable to luxuriant growth, would undoubtedly militate against the production of flowers, and it was not until the plants which have blossomed were treated in a contrary manner that they displayed any appearance of flower. — *Pax. Mag. Bot.*

SCROPHULARIACEÆ. — *Didynamia Angiospermia.*

Antirrhinum majus flore pleno. A fine double blood-coloured Snapdragon, raised accidentally from seeds, in the nursery of Messrs. Young, of Epsom. The flowers are large, and the colour intense. — *Pax. Mag. Bot.*

ASPHODELACEÆ. — *Triandria Monogynia.*

Leucocoryne alliacea. Some of the species of Leucocoryne are better known to cultivators as Brodiceas, under which they were first arranged and described. From that genus, however, they have been separated by Dr. Lindley, on account of the difference in the insertion of the fertile and the texture of the sterile stamens; and the present name, derived from *leukos*, white, and *koryne*, a club, has been applied in allusion to the form and colour of the barren anthers. The present species is a bulbous perennial, with long linear pale green leaves; the flower stems appear to rise about a foot in height, and the tube of the flowers is greenish white, with a flat six-part limb, of a delicate lilac blue. It is a plant of easy culture, succeeding very well in a cool greenhouse, or even in the open ground, with a slight protection in severe weather. It is stated to have been found by Mr. M'Raie in Chili, in 1825, growing on the sides of the mountains, between St. Jago and Valparaiso, in places that a few days previously had been covered with snow. — *Pax. Mag. Bot.*

LEGUMINOSÆ. — *Decandria Monogynia.*

Gompholobium Hendersonii. This plant possesses a character widely differing from the well known *G. polymorphum*, for, instead of shoots remarkable for great length and tenuity, it is, on the contrary, a small dwarf bush, of slow growth and very stiff rigid habit; the leaflets are small and narrow, and always ternate, whilst those of *G. polymorphum* are sometimes three, and sometimes five. The flowers are scarcely so large, but are produced in equal abundance, and near the extremity of the shoots. It was sent from the Swan River in 1840, by Capt. Mangles. — *Pax. Mag. Bot.*

THE CAMELLIA.

WITH AN ENGRAVING OF C. JAPONICA VAR. HALLEII.

We have on former occasions offered some remarks on the essential principles connected with the acclimatising these noble plants, with a view to their adoption as ornaments to the lawns, the shrubberies, and boundary walls; since then we have had an opportunity of proving the subject by a practical test. In pursuance of this desirable object, last autumn we placed ten plants of Camellias in an open border at the foot of a wall, having a due south aspect, and we take the present opportunity of giving the result, so far as we have gone. It will however be better, first, to describe the treatment the plants have been subject to in their new position, in order to guide others who may be desirous of trying the thing, and to enable the reader to form a just estimate of the amount of success which has attended the experiment.

The border was prepared about a month previous to planting, by throwing together equal quantities of loam, leaf-mould, and turfy peat, forming altogether a stratum of about eighteen inches in depth, and twice that number in width; the bottom being well drained with pieces of stone and old bricks, and after having well mixed the component soils, the bed was allowed three or four weeks to settle. The plants selected had hitherto been growing in pots, with the treatment usual to them in such circumstances: they were Pomponia, Althæiflora, Insignis, all of them being about two feet high, with a tolerable share of bloom-buds already set upon them. Soon after being turned out they were nailed to the wall, and in this state left, without further protection, until the following January, when, being aware of the injurious effects likely to ensue from premature excitement, the plants were covered with thin canvass or bunting, not with any intention to preserve them from frost or cold, for the material was *very* thin, *but to screen them from the sun;* and here we may remark the southern aspect was not chosen as being favourable to the desired end, but was used for the purpose, simply because the wall must be covered, so that in fact it was rather a selection of the plants for the wall, than of the wall for the plants, and this aspect eventually proved the only difficulty we had to contend with. During the succeeding two months the plants were several times subjected to severe frosts, with only a slight additional covering occasionally at night (which we have since thought unnecessary), still they retained their foliage and flower-buds, only two of the whole number falling off. The screen was continued before them until the flowers began to expand, which, from the constant shade afforded, was deferred till the middle of April, and then it was, the real and only difficulty presented itself. The sun having great power at that time, forced the flowers open quickly, and of course it was out of the question to continue the shading longer, and thus hide their beauties; but so soon as the full power of the solar heat fell on them, the flowers opened and were scorched up directly, scarcely one lasting in any thing like perfection more than a day: this was vexatious, and there appeared to be no remedy but in a change of aspect, for it was not possible to protect them from this scorching influence without obstructing the view of the flowers; but had they been in any other situation with respect to the sun, it is easily seen the direct rays would have been broken, and the intensity consequently dissipated and softened down to a vivifying warmth, and therefore, in all future operations of the kind, we shall prefer a situation that receives but little sunshine, indeed, we think the less the better; for without its effects, the necessity for protection will be done away with, except in instances of the opposite extreme in the temperature of the air. The plants are now making a healthy growth of a medium size.

Thus we add another instance of the assimilation of the period of growth to our seasons being necessary to the acclimatising exotics: the great obstacle we had to surmount was the natural excitability of the plants, which, had they not been shaded in the early part of the season, would have induced them to open their buds full a month sooner, and as the new wood follows immediately after the flowers, in all probability it would have appeared and directly been cut off by frost. We are persuaded henceforth that this assimilation is the fundamental principle to be observed, and that the idea of imparting a more robust character to the plant by means of seed raised in this country, is erroneous, the object gained by this process being referred more correctly to the adaptation of the growth to the season, or, in other words, beginning the growth at the beginning of the season.

Our illustration is another seedling raised by Mr. Halley, nurseryman of Blackheath. It is one that is sure to arrest the attention of all connoisseurs of this beautiful family: the correctness of its general outline, the great depth and substance of its petals, together with its brilliant colour, render it pre-eminently beautiful; in short, it will be a *necessary* flower in all collections.

Ed.

ON KEEPING UP A SUCCESSION OF FLOWERS.

One of the chief objects of the flower-gardener is to keep up, as long as possible, a succession of flowers. A parterre without blossoms is like an orchard without fruit; every expedient is therefore had recourse to for the purpose of retarding the flowering of some kinds, and expediting that of others. Our early spring flowers, which are chiefly bulbs and tubers, would be inclined to flower again in the autumn, if they were not checked by the great heat of the summer in those countries of which they are natives; or if, in imitation thereof, the carefnl florist did not remove them out of the bed in which they have already flowered. Thus by stopping their growth, while artificially treated in a colder and moister climate than their own, we delay their blooming till the season when their blossoms are most welcome to us. In this way many of these bulbous and tuberous-rooted plants may be made to flower at almost any season. But there are rules of propriety in the execution of these proceedings: a snowdrop would scarcely be regarded at midsummer, while surrounded by so many gaudier beauties, neither would the tulip, the bright queen of the garden, look well amid the sober tints of autumn. Nature intends that her beauties shall be dispersed over the whole circle of the year, and the florist assists in this arrangement; and, for this assistance, claims for himself the privilege that she shall be to a limited extent subservient to him in some instances, while he encroaches upon her seasonal laws. The British florist has a peculiar claim to this privilege, because he has taken under his care the floral beauties of every clime in both hemispheres, affording to each, as near as can be, its natural temperature, its natural soil, and its natural rank and station amongst others. If, then, he should occasionally interfere with nature's laws, in bringing forth flowers out of season, he is not only excusable as their cultivator, but it is creditable to him as their guardian. These observations are particularly called forth at this time, while witnessing on all sides the fading of many flowers, which were only a day or two ago in the greatest beauty. To have them always in beauty would diminish rather than advance them in our estimation ; but the recurrence of a flower when not expected, and especially if obtained without any derangement or mutilation of the plant operated upon, would be a delectable rarity, and really a desirable incident in a flower-garden. Every body knows that transplanting Rose trees late in the winter, or pruning them twice, or late in the spring, procures a late bloom, perhaps a month later than the ordinary time of flowering (we are speaking of the common Provence rose) ; though this treatment of Rose trees is less necessary now than it was before the introduction of so many French and Chinese species and varieties, some one or other of which is always in flower through the summer and autumn months. The Laburnum is a highly ornamental plant, from the middle of May to the end ; but, if the flowering shoots be cut back, and the tree divested of its racemes of pods, a partial bloom will again come forth later in the summer. Indeed, the whole of the Cytisus genus may be made to flower twice in the summer, by careful cutting back after the first flowers fade. The Rose-acacia, and several others of its congeners, will flower a second time, if pruned back after the first ; and so will the Althæa frutex, presenting its second flowers as late as October, when flowers of any kind are much wanted. Checking the growth of herbaceous border flowers, by repeatedly transplanting, or by divesting them of a few or the whole of their stems to retard the flowering, or allow it only to be developed gradually, is an old expedient ; and, what with attention paid to this management of perennials and biennials, and to the many different times at which annual flowers may be sown and transplanted, a continued galaxy of blossoms may be maintained throughout the growing season.

Delta.

ON THE APPLICATION OF MANURE IN A LIQUID FORM TO PLANTS IN POTS.

The quantity of earth which the most firm and solid parts of trees afford by analysis is well known to be very small, and even the species of these earths have been proved by the younger Saussure to be dependent, to a great extent, upon the component parts of the soil in which the trees happen to have grown. A large extent and depth of soil seem, therefore, to be no further requisite to trees than to afford them a regular supply of water and a sufficient quantity of organisable matter; and the rapid growth of plants of every kind, when their roots are confined in a pot to a small quantity of mould, till it becomes exhausted, proves sufficiently the truth of this position. I have shown in a former communication, that a seedling plum-stock, growing in a small pot, attained the height of 9 ft. 7 in. in a single season; which is, I believe, a much greater height than any seedling tree of that species was ever seen to attain in the open soil. But the quantity of earth which a small pot contains soon becomes exhausted relatively to one kind of plant, though it may be still fertile relatively to others; and the size of the pot cannot be changed sufficiently often to remedy this loss of fertility; and, if it were ever so frequently changed, the mass of mould which each successive emission of roots would enclose must remain the same. Manure can therefore probably be most beneficially given in a purely liquid state; and the quantity which trees growing in pots have thus taken under my care, without any injury and with the greatest good effect, has so much exceeded every expectation I had formed, that I am induced to communicate the particulars and the result of my experience.

I for some years appropriated a forcing-house at Downton to the purposes of experiment solely upon fruit trees, which, as I had frequent occasion to change the subjects upon which I had to operate, were confined in pots. These were at first supplied with water in which about one tenth by measure of the dung of pigeons or domestic poultry had been infused, and the quantity of these substances (generally the latter) was increased from one tenth to a fourth. The water, after standing forty-eight hours, acquired a colour considerably deeper than that of porter, and in this state was drawn off clear, and employed to feed trees of the vine, the mulberry, peach, and other plants. A second quantity of water was then applied, and afterwards used in the same manner; when the manure was changed, and the same process repeated. The vine and mulberry tree, being gross feeders, were not likely to be soon injured by this treatment, but I expected the peach tree, which is frequently injured by excess of manure in a solid state, to give early indications of being over-fed. Contrary, however, to my expectations, the peach tree maintained, at the end of two years, the most healthy and luxuriant appearance imaginable, and produced fruit in the last season in greater perfection than I had ever previously been able to obtain it. Some seedling plants had then acquired at eighteen months old (though the whole of their roots had been confined to half a square foot of mould) more than 11 ft. in height, with numerous branches, and afforded a most abundant and vigorous bloom, which set remarkably well; and those trees which had been most abundantly supplied with manure displayed the greatest degrees of health and luxuriance. A single orange tree was subjected to the same mode of treatment, and grew with equal comparative vigour; and appeared to be as much benefited by abundant food as even the vine and mulberry tree.

An opinion generally, though I think somewhat erroneously, prevails, that many plants, particularly the different species and varieties of heaths, require a very poor soil in pots: but these might, I conceive, with propriety be said to require a peculiar soil, for I have never seen the common species of this genus spring with so much luxuriance as from a deep bed of vegetable mould, which had been recently very thickly covered with the ashes of a preceding crop of heaths, and other plants that had been burned upon it; and I believe, if the branches and leaves of the common species of heath were placed to decompose in water, and such water were afterwards given to the tender exotic species, that these, how heavily soever the water may be loaded with organisable matter, would be found as little capable of being injured by abundant food as the vine or mulberry tree, though the species of food which would best suit those plants might prove to every species of heath destructive and poisonous. (*Knight's Physiological and Horticultural Papers.*)

HORTICULTURAL ESSAYS,

By the Members of the Regent's Park Gardeners' Society.

ON THE CULTURE OF DUTCH BULBS.

By Mr. W. ANSELL.

(*Continued from page* 111.)

THE RANUNCULUS. — The species of Ranunculus are natives of the south of Europe and North America; and many of them are natives of Britain. The parent of the florist's flowers is extensively cultivated in the East, and also by the Dutch, together with its varieties, with the same success as the hyacinth and the tulip.

Planting the full-grown Tubers. They should be planted as early as convenient in October, selecting the medium-sized tubers, for they are better than large ones, the large ones being very apt to divide into offsets, and therefore seldom flower so strongly. When a number of offsets are required, large-sized tubers are consequently to be preferred.

The place selected for the culture of the Ranunculus should not be quite so dry and airy as recommended for the hyacinth and tulip. About the middle of September, the bed should be excavated to the depth of eighteen inches; then place in the bottom a stratum of well-rotten cow-dung, and mix it with the mould below, as before recommended; fill the bed to the ground level with good strong loam that has lain in heap for twelve months. Clay has been used with good success. When quite ready for planting, the bed should be marked out by means of a rod, with lines four or five inches asunder. Never plant the roots in holes or drills, as is often practised, but place them on the angles of the lines previously drawn, and with some sand above and below each; over the whole about two inches of soil should be laid.

Protection of the Beds. It will be requisite to cover the beds during severe frosts with some long litter, such as fern, or pease haum; but they should not be kept continually covered, when the weather is not severe, as it will be very injurious to them. As soon as the plants appear above ground, select a dry day, and press the earth firmly around the root of each plant; for if drought prevails, and the crowns of the tubers are exposed to the light, they will become materially injured. Moderate waterings will be required should the season prove dry, more particularly when the flowers are about expanding. When the aspect would render the bed exposed to the full influence of the sun through the day, it should be shaded during the midday, otherwise the leaves will become yellow; and in this case a sufficient degree of nourishment would not be supplied to the tubers. Shading will be still more necessary when the flowers are expanding, or expanded, for the bright sun will cause the colours to run or fade; but in all cases a free current of air must be admitted to the beds, not allowing the covering to come nearer the ground than eighteen inches, or two feet, and leaving both ends open.

Taking up the Tubers. As soon as the stems and leaves die down, and before they disappear, the tubers should be taken up, picked clean, and carefully dried. When quite dry, they should be put into boxes or drawers, perforated with holes through the sides and bottom, to admit of air passing through; and placed in a dry airy room, but not exposed to the sun. They may remain here until the season for replanting them.

The Anemone.—The Anemone, or wind-flower, is a native of the South of Europe, Germany, and the Levant; several species inhabit the British woods. There are two species of Anemone cultivated as florist's flowers, besides several other species as border flowers; the former are known as the poppy, or garland wind-flower (*A. coronaria*) from the Levant; and the garden wind-flower (*A. hortensis*) from Italy. They require much the same treatment as the ranunculus, but are rather more hardy, though both are from warmer countries than England.

The best tubers for insuring a good bloom, are those which are from three to five years old; for as they become older, they are apt to grow large and hollow, in which case they bloom weakly; and though they may have been very double in previous years, they at length produce fewer petals, and finally become single. When the tubers thus become hollow, it would be the best way to cut them in pieces, and treat them as offsets.

Taking up the Tubers. Anemones are more succulent than ranunculuses, and continue longer in a growing state after the flowers fade. If the weather should happen to prove wet about that time, they will continue growing too long; and when thus exposed to the wet, they are apt to start afresh, which tends greatly to weaken the tubers: it will likewise weaken them, if taken up before they are quite ripe. To avoid these evils, the beds should be covered with mats or canvass, to shelter them *only* from the rains; in this way the tubers will become regularly and gradually matured, and in the space of a month or five weeks, the leaves will become brown and dry. The tubers should then be taken up, and the old leaves and stems removed close to the crown. Place them in some shady place, where they will dry gradually, and when quite dry, clean them from any mould that may adhere to them, and put them in boxes similar to those already recommended for the ranunculus.

The Narcissus and Jonquil.—Many of these are natives of Spain, Portugal, Italy, and the South of Europe; though several others are British species. A dry situation should be selected for the cultivation of these bulbs, as some of them are natives of rocky and stony situations; while some others that are more tender, as the *Polyanthus Narcissus*, the most delicate of all the bulbs, will require protecting with a covering of leaves or fern, during severe weather. The narcissus bulbs should not be removed above once in four or five years, as they always flower weaker after being removed; and when removed, the less time they remain out of the ground the better. As soon as the bulbs are taken up, which should be when they are ripe, the bed should be excavated to the depth of two feet; then fill it in about one foot above the ground level, with sandy loam, and a little well-rotten cow-dung. Mark the rows in the bed about six inches asunder; plant the bulbs directly, about eight or nine inches deep, with a trowel, placing three bulbs to each hole. The Jonquil (*Narcissus Jonquilla*) ought to be moved every year; for if left standing, the bulbs grow longer and deeper, and do not flower so well.

The Crocus, Snowdrop, and Dog's-tooth Violet.—The various sorts of Crocus, Snowdrop, and Dog's-tooth Violet, some of them natives of England, are not very difficult to cultivate; but they are particularly pleasing in their effect, as they bloom in company with each other.

The corms of the Crocus must be planted to the depth of two or three inches, either in beds by themselves, about four inches asunder, or patches of five or six in each. They look extremely well to form margins to clumps and borders, placing them in a varied manner with respect to the sorts. Great injury is frequently done to the corms by trimming off the green leaves, for the sake of neatness, as soon as they have done blooming. That practice is quite erroneous, as the green leaves tend to nourish and strengthen the corms, and if taken off the future blooms will be materially injured.

The Crocus corms should be left in the ground for three or four years undisturbed, with the exception of forking in a little fresh compost every year, as they will not bear to be kept out of the ground, the same as tulips and other bulbs. If the corms are left out of the ground to push, they will often perish, or, at best, flower weakly. They should be taken up as soon as the leaves decay, separating the large ones from the small, and plant them again as soon as the places are prepared for their reception. Any light fresh soil will do for the crocus, with a little well-rotten dung.

The same treatment will be applicable for the Snowdrop (*Galanthus nivalis*) and Dog's-tooth Violet (*Erythronium Dens Canis*).

* * *

ON THE APPLICATION OF CHARCOAL IN THE CULTIVATION OF PLANTS.

By Mr. T. Moore.

In estimating the uses and application of Charcoal in horticultural matters, we must look to the influence it exerts in two distinct of points of view; viz., chemically and mechanically. In the first of these, that is, chemically, its action would appear to consist in applying food directly to the plants which are under its influence, by regulating the combination of substances which are capable of supplying nutriment ; and in the other case, that is, mechanically, its influence seems to consist in regulating the conditions and bearing of certain matters, which are liable to become ill adapted to the purpose for which they are designed. But wherever charcoal is applied to the soil in which plants are cultivated, these distinct and separate influences go on together and simultaneously, and therefore we may reasonably infer that its beneficial character may be in part ascribed to both.

The chemical composition of charcoal would seem to suggest, that it may be the means of supplying plants directly with a portion of matter which they can appropriate to their nutrition. It consists of impure carbon (the diamond being composed of carbon in a pure state), and carbon entering into combination with a portion of oxygen, is then capable of ministering to the growth of plants, though, whilst in a free and uncombined form, they cannot absorb it. When it is combined with a portion of oxygen, which it derives from the atmosphere, it becomes carbonic acid gas, and in this state it is absorbed and decomposed by the leaves of plants, the oxygen being again liberated, and returned to the atmosphere, thus rendering it more capable of supporting animal life, whilst the carbon is fixed, and serves to increase the vegetable fabric. So say the chemists, and we gardeners, for the present at least, must be content to follow them, although, as the science of chemistry, without doubt, is regulated by simple and unvarying natural laws, there is no reason why an attentive study of the science should not enable gardeners to speak on these matters from personal conviction, and not, as at present, on the authority of others. But the chemists tell us more ; they tell us, that except under the influence of a considerable degree of heat, charcoal is a substance which decomposes so slowly, that, under ordinary circumstances of vicissitude and exposure, it is almost imperishable ; we must not, therefore, overrate its chemical influence ; but as these gaseous bodies do exert a very powerful influence, when they exist even in such infinitely small proportions as to be altogether unappreciable to the senses, we may believe that even the small degree of chemical action which can be supposed to take place between charcoal and the elements of the atmosphere by which it is surrounded, is directly beneficial to plants.

The mechanical action of charcoal is two-fold. In common with all similar substances or materials, its admixture with the soil renders the latter very perfectly adapted to the free passage of moisture through it, and therefore its use tends to prevent stagnation of moisture in the soil; besides this, it has rather a strong affinity for moisture, and thus it attracts and imbibes a considerable proportion during its passage through the soil, and becomes a perpetual reservoir to the roots of the plants. It parts with this moisture slowly, in proportion as the capillary action of the fibrous roots abstract it, and thus it serves to regulate and equalise the supply of fluid which is available to the roots. It has been hinted, that this water (a compound of hydrogen and oxygen) becomes carbonated whilst held by the attractive force of the charcoal, and if so, it must be specially beneficial to plants, since it would directly supply them with a portion of carbon.

As an adaptation of its mechanical action, I conceive it might be advantageously employed in the case of valuable plants, to counteract the injuries which frequently result from the interior of the ball of earth becoming dry, which, when once the case, it becomes almost impossible again to moisten it by any rational means. It is my belief that a greater number of valuable plants are lost from this cause than from any other. The manner in which I think charcoal could be made to remedy this evil, is by introducing a few pieces perpendicularly, and extending quite through the ball of earth, at each successive shifting, and keeping them as near the centre as possible; these could then be kept wet by any simple capillary contrivance, and might effectually be made to keep the centre of the soil in a duly and regularly moistened state. It would also extend the influence of the atmosphere among the roots, as the channels which would serve for the passage of water, would, when not so employed, be capable of transmitting air.

Practically I may mention, that I have observed in many cases the beneficial influence of charred blocks on the appearance of the roots of orchidaceous plants which have been attached to them, which is apparent in the more pellucid aspect assumed by the growing points.

April 25. 1844.

ON TAKING IMPRESSIONS OF PLANTS.

By Mr. E. Keenan.

(*Communicated by Mr. Billington.*)

The advantage of being able to take accurate impressions of plants without much labour, need not be pointed out to those who can appreciate what is useful. It is not brought forward as a substitution for dried specimens, where these can be obtained and attended to; but as being less cumbersome it deserves notice, as a means of refreshing the memory, in very many instances, in a manner equally satisfactory as when specimens are employed. It has, further than this, no claim to novelty, but simply to usefulness.

The materials required are few, and these not expensive. One pennyworth of lampblack and one pennyworth of sweet oil, are all that will be required besides the paper. A large sheet of paper should be provided, and this should be prepared by rubbing it evenly all over with a piece of flannel moistened with the oil; this must be done thoroughly, and when the paper is well moistened, but not in a wet state with the oil; a small quantity of lampblack should be laid evenly over it, also using flannel for this part of the operation. If this preparation can be made a day before using the paper, it will be so much the better. The next process requires great care:—having the prepared sheet in readiness, place on it evenly and flatly the plant, flower, or leaf, of which an impression is required; then place over this a dry sheet of paper, and with a handkerchief or cloth press firmly over every part, that it may equally and regularly receive the black preparation. The paper intended to receive the impression should now be in readiness, and the specimen must be carefully removed and placed on it, and great care must be taken that its position is not changed; this, too, must be again evenly and firmly pressed as before, and the impression will be complete and must be laid carefully aside to become dry. A specimen or two can be tried on a spare sheet, in order to ascertain, whether the blackened sheet is in a proper state of preparation, before it is attempted to take a very careful impression. This is particularly valuable in preserving sketches of the leaves of rare and valuable plants.

VISITS TO REMARKABLE PLACES.

Tatton Park, Cheshire, the seat of W. Egerton, Esq. — This place is noted for its fine lawns and noble scenery of the distant hills of Derbyshire and Staffordshire: it is one of the most extensive and best kept places we have had the pleasure of seeing for a length of time. On entering the gardens, we were equally surprised at their magnitude, and the neatness and good order which prevailed, the lawns verdant and closely mown, though extending over a surface of above 50 acres, the walks clean and smooth, and the flower-beds wearing a dressed appearance, suitable for even June, though our visit occurred in the chilly month of March. A large architectural conservatory occurs near the mansion, which on the outside presents but a gloomy appearance, from the heavy stone columns which support the roof; the interior, however, was as gay with flowers as could be desired: — fine plants of Rhododendron arboreum, displaying their trusses of rich crimson flowers, in strong contrast to the golden fruit of the Orange, Citron, and Lemon; several excellent specimens of Banksias overtopped the more humble, though not less interesting, Camellias, Fuchsias, Cinerarias, &c. which ornamented the front of the borders, while the pillars and roof were completely clothed, from the floor upwards, with various members of the genus Acacia. The very ingenious mode of labelling the plants in this house deserves particular mention. The labels are made of zinc, in the form of a butterfly, and, by varying the colours on the upper and lower wings, a knowledge is conveyed of the geographical distribution of the plant, while certain dots and marks on the one or the other express the botanical arrangement. They have a very pretty and neat appearance: to explain the matter fully would occupy more space than we can at present command, but as we think it worth adoption for established plants in similar situations, we shall probably revert to it next month.

The Orchidaceous house is entirely hidden from the surrounding walks by a fine piece of rockwork; stone being plentiful in this part of the country, the landscape-gardener has an opportunity of using it to advantage in these masses. The plants in this house are grown in a rather low temperature, and a drier atmosphere than is usual; however, they were looking very well, though a little more moisture would perhaps induce a stronger growth. The collection contains good plants of Cattleya Mossiæ, labiata, intermedia; Maxillaria fuscata, uncata; Lycaste macrophylla, Deppei, tetragona; Gongora fulva, maculata, and varieties; Dicrypta graminifolia; Broughtonia sanguinea; Epidendrum variegatum, Parkinsoni, glumaceum, aromaticum; Notylia punctata; Cirrhæa Warreana, fusco-lutea; Sobralia sessilis; Oncidium longifolium, Lanceanum, Harrisonianum, papilio; Peristeria cerina, guttata; Sophronitis pterocarpa; Brassia Wrayii, Lanceana; Stanhopea tigrina, oculata, and saccata.

The surrounding pleasure-grounds are disposed in the irregular or picturesque style, and contain, beside the flower-garden already spoken of, a labyrinth, American garden, in which are some flourishing specimens, and a large piece of ground, recently planted for a Pinetum; from this, over a neat rustic bridge, the path leads, by a very chastely designed and beautifully situated temple, towards the kitchen garden. Here the same order and regularity is observable; the forcing of fruit and vegetables is carried on extensively and satisfactorily; the ranges of Pineries, Vineries, and Peach-houses looked all that could be desired. In one house, a vinery, we saw the finest crop of strawberries it has been our fortune to witness this season; in another early house grapes in pots were "colouring." Figs, cherries, beans, cucumbers, melons, all appeared to luxuriate in the treatment they were receiving; while the out-of-doors department reflected equal credit on the kitchen gardener, Mr. Derbyshire. To him and Mr. Egerly, the flower gardener, we were much indebted, for their courteous attention, in pointing out the many and various objects of interest which called attention on every side.

Ed.

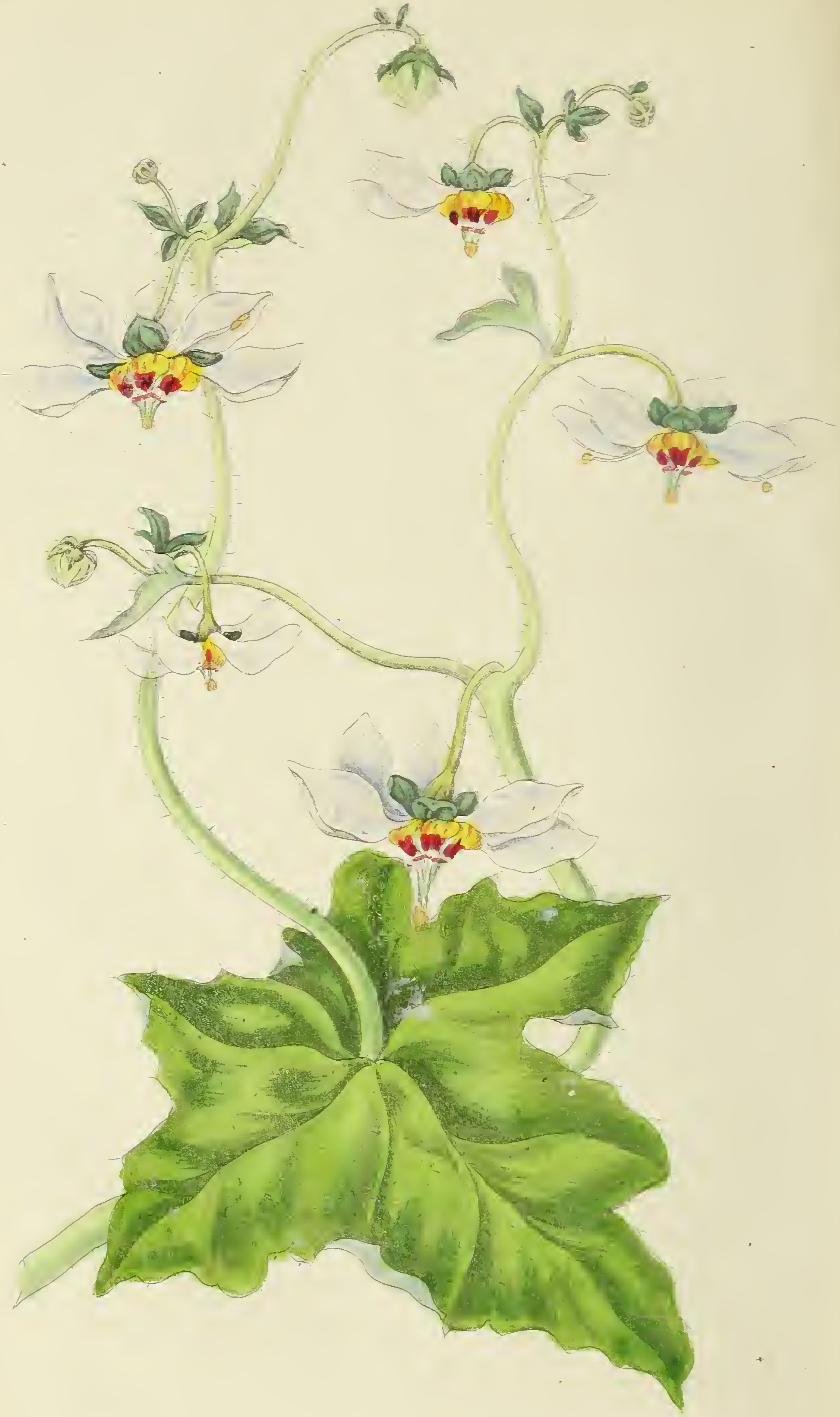
CALENDAR FOR JULY.

Plant Stove. All should be gaiety and profusion here. The majority of the plants will be in rapid growth, which may yet be encouraged by maintaining a well-moistened atmosphere about them, and re-potting such as require it. By no means, however, let them become crowded whilst in this profuse state of growth, or the consequence will be "long-legged" and lanky plants; let them rather have room enough on all sides to receive a full degree of light, that their growth may be well ripened. Some of the early growing plants will now be mature, and should be gradually brought to a state of repose. Some of the Orchidaceæ, too, will have completed their first growth; this may be ripened off quickly, and a second growth will be secured later in the season; this is useful when it is desirable to increase the size of the plants rather than the development of flowers.

GREENHOUSE. Greenhouse hard-wooded plants may both be *kept* and *grown* better in cool pits during summer than in any other situation. They should be shaded from intense sun heat, and a circulation of air through the bottom of the pits *about the pots* should be secured. The free growing and soft-wooded plants may be grown wherever there is plenty of air and light, and the auxiliary of shading from the scorching rays of the sun. It is scarcely material at this season whether these conditions are supplied to them out of doors, or in frames or pits, or houses with the lights partially or wholly removed. The greenhouse and conservatory should be kept gay by a succession of plants in bloom, and these ought now to be frequently changed and renewed.

FLOWER-GARDEN. Propagate extensively for next year's supply. Sow the seeds of biennial and perennial flowering plants. Propagate double Rockets, double Sweet-Williams, Mule Pinks, Pansies, and such like plants, by cuttings and slips. Increase Pinks by piping, and Carnation and Picotees by layering. Carefully preserve the dried roots of bulbous plants until the planting season returns. In the modern flower-garden plant out duplicates to fill vacancies; peg down diffuse-growing, and tie up erect-growing plants; water liberally and frequently, examine and remove dead leaves and stems. "Let every thing be done decently, and in order." The amateur would derive much advantage from making a careful note of the exact heights and colours of the summer-flowering plants he cultivates, as well as of those which he may intend to add to his selection: this information will be found to be particularly useful at planting time next year, and there is some satisfaction in turning one's own observation to account.

T. M.



LOASA LUCIDA.

Engd by J. Andrews for Florist Journal August 1844

THE

FLORIST'S JOURNAL.

AUGUST, 1844.

THE GENUS LOASA.

WITH AN ENGRAVING OF L. LUCIDA.

THE derivation of the singular name bestowed on this genus by Adanson has never been explained, nor can we now attempt it, unless by supposing it to be an alteration of some native name. It is for the most part of South American origin, occupying in that hemisphere the station of our bryony and wild nettles, several of the species possessing in even a stronger degree the stinging properties of the latter; the flowers of the whole genus are extremely curious, and many of the later importations have large showy blossoms. The first introduction of *Loasa* was in 1820, when *L. incana* was brought from Peru, but having little to recommend it to general notice has since fallen out of cultivation. This was followed by some others in 1822-5-7 and 1830, that, like the first, were grown only for a year or two, and thrown aside to make room for newer and better kinds. One species only has preserved its popularity; this is *L. palmata*, or, as it is now called, *Blumenbachia insignis*, which is still regarded as a desirable annual.

L. lateritia, from Tucuman, in 1836, directed cultivators to a proper estimate of the capabilities of the genus, and since that time the climbing kinds especially have received a fair share of attention. Those usually found in collections of the present day are *L. Pentlandica*, a pretty bright red and yellow free-flowering species, but a most troublesome one to train or keep in order, on account of its abominable sharp-stinging leaves, which, on the least touch, puncture the skin, and leave an irritation which lasts for some hours.

Preferable to this is *L. Herbertii*, an hybrid, we believe, having much larger flowers, of a deep orange-red; it is of stronger habit, requiring to be trained upwards, and will cover a trellis of considerable size; this is less venomous, and therefore may be arranged with less difficulty.

L. aurantiaca is by some affirmed to be no other than *L. lateritia*: if this be correct, there is certainly another unnamed species, or at least there must be a variety of it, for we have grown the true *lateritia* and another under the name of *aurantiaca*, and found them very different, the latter being of more robust habit, and producing flowers of a more golden hue; but we know nothing of its history, and are inclined to believe it a garden variety.

L. lucida, our present illustration, is a native of Chili, where it is found, but sparingly, on the coast of Coquimbo; it was imported by Mr. James Carter, seedsman, of High Holborn, to whom we are indebted for the above information respecting it. The plant from which our drawing was taken was raised in the nursery of Messrs. Henderson, Pine Apple Place, in the spring of the present season, and where it is still producing its lovely and curious blossoms. The general character of the genus is what is called half-hardy annuals; and though from its scarcity *L. lucida* is now kept in a greenhouse, we suppose it will on trial be found sufficiently robust to bear exposure in the open garden through the summer months; but even should it prove necessary to continue the protection of a house, it must always be desirable, were it only for pot-culture; its free habit of blooming, and glossy bright green foliage, will ever render it a favourite in all collections.

With respect to cultivation, the entire number of species may be similarly treated; the seed should be sown in February in shallow pans, and placed in a moderate hot-bed frame, and kept moist until the plants have made four or five leaves, when they require to be potted singly into small pots, and afterwards removed into other larger ones as they advance in size, continuing them in the frame until the weather will allow their removal to the open borders: if intended to cover an ornamental trellis, or the bottoms of the pillars of the conservatory, it is better to place them in the situation they are to bloom in at the second shifting, as they are then more rapid in progress, the check consequent on frequent re-potting being avoided. The kind of soil they delight in is fibrous loam, enriched and made porous by the addition of a portion of leaf-mould or well-rotted manure. To secure a supply of seed, attention must be paid to the ripening of the seed-vessel, which is curiously twisted in a spiral manner, and as soon as it is ripe unfolds itself, and the seed is scattered.

EDITOR.

REMARKS ON THE CULTIVATION AND PROPAGATION OF THE GENUS ACHIMENES.

SIR,—I feel that I need not offer any apology for troubling you with a few remarks on the lovely tribe of plants above named: their great beauty, and the long time they may be made to retain that beauty, their easy cultivation, and the prospect they offer to the hybridiser, all combine to render them the greatest acquisition our gardens have received for a long period, as they are alike suitable for the greenhouse, the drawing-room, or the cottage window. I think every one who has witnessed the splendid specimens at the recent exhibitions near the metropolis will admit the truth of these remarks.

Achimenes coccinea, syn. Cyrilla pulchella, Trevirana coccinea, from being an old inhabitant of our stoves, claims first attention. It is a native of Jamaica, and was introduced in 1778. To cultivate this successfully; select, about the latter end of February, as many of the largest of its scaly bulbs as may be required, and put them thinly in a flower-pan, and place the pan in a cucumber-bed, or any place with a warm moist atmosphere, where they will soon begin to grow. When they have grown nearly a quarter of an inch, they may be potted, in the following manner: — Place half a dozen of them round a small 48-sized pot, the soil for which should be a mixture of loam, leaf-mould and peat in equal proportions, with a little sand, and plenty of drainage: return them to the place they were taken from until they are well established, when they should be removed to a cooler pit or frame, giving more air and water as they advance in growth. When they have well filled the pots with roots, they may be shifted into 24's, with the same kind of soil, in which they may be left to bloom: after that is over, they may be stored away in any dry place, secure from frost, until again wanted.

Achimenes longiflora, introduced by the Horticultural Society of London from Guatemala, in 1841, has been figured and described, and its cultivation recommended, in this Journal, and therefore need not be repeated here; but, in order to have a good succession of bloom, some tubers should be started, to grow as early as the beginning of February, and some as late as the end of April, by which means they may be had in bloom from June to November; and I would here guard the amateur (for whom this is chiefly intended) against a bad variety that is in cultivation. If the foliage is of a light green on the under side, that variety is not worth growing, from its being so shy to flower; the best kind having always a red tinge on the lower side of the leaf.

Achimenes rosea. — This is a very pretty species sent out by the Horticultural Society, about the same time as the preceding one. The treatment recommended for *A. coccinea* will apply to this, except that, like all the other recently imported species, it appears very impatient of much heat.

Achimenes pedunculata. — This species was introduced from Guatemala in 1840. Although less beautiful than some other of the species, it is still well deserving cultivation. The tubers of this should be at once placed in the soil, it being a stronger-growing kind than the preceding, and must be frequently stopped in its early growth, or it will become tall and unsightly: subsequent treatment the same as recommended for the others.

Achimenes grandiflora. — This, the most handsome of the whole genus, reached this country, from Ghent, in 1842; it is a native of Mexico; culture the same as that recommended for *A. coccinea.* It, like all the others, requires a slight shading to preserve its blossoms.

Achimenes multiflora. — This species is a native of Brazil: it was introduced in 1842, and is still scarce. It is somewhat like *Sinningia guttata,* with the edge of the corolla prettily fringed: cultivation same as above.

Achimenes hirsuta. — This species is a native of Guatemala, and arrived in this country amongst some orchideæ that were purchased by Messrs. Henderson, of Pine Apple Place. It has the robust habit of *pedunculata;* its flowers are double the size of that species, but not quite so handsome: its cultivation may be considered the same.

Achimenes picta. — This beautiful species has been recently sent out by the Horticultural Society. The flowers of it are striped like *Gesneria zebrina.* It is, I believe, a native of Guatemala: cultivation the same as that recommended for *A. coccinea.* They may be all readily multiplied by division of the root. The following may also be practised with the scarce kinds: — Get a leaf and its stalk; place it in some sand in a pot, and press the leaf flat down on the sand; then make two or three incisions clean through the mid-rib, and put a peg through each hole, to make the leaf adhere closely to the sand; over that put a cutting glass closely; plunge it in some bottom heat, and shade it. I have obtained plants this summer in three weeks by this method.

If this is worth a place in your valuable Journal, perhaps it may be useful to some of your readers.

E. A. H.

LIST OF ORCHIDEÆ.

(*Continued from page* 128.)

204. *Lælia furfuracea.* This is another beautiful species of the pseudo-bulbous class; its bulbs are about an inch and a half long, tapering a little from the base towards the summit; the leaves are produced singly, about six inches long, and better than one inch broad, of a fleshy nature. This, like most of the others, will succeed either in a pot or on a block of wood, with a little sphagnum tied round it to preserve the moisture; if grown on the latter principle it requires abundance of water while growing; the temperature should never exceed 65°.—*Native of Mexico.*

205. *Lælia autumnalis.* Another fine species, well deserving the attention of all interested in the cultivation of Orchideæ; its pseudo-bulbs are nearly two inches long, a little furrowed; leaves single, nearly seven inches long, and one inch broad; its flowers are produced on a spike rising from the summit of the bulbs; they are beautifully tinged with rosy crimson; the plant requires the same treatment and temperature as the others. — *Native of Bolanos.*

206. *Lælia grandiflora.* A pretty species with pseudo-bulbs two inches long, of a pale green; leaves seven inches long, rather crisp; this is also well worth growing, and requires the same treatment and temperature. — *I believe a native of Mexico.*

207. *Lælia flava.* This plant is but a mere variety of *L. cinnabarina;* in its growth it is not so strong; succeeds with the treatment recommended for the others. This genus at present consists of fourteen species, all well worthy of cultivation, and of easy management, provided they are grown in a low temperature; if placed on blocks, a liberal supply of water must be given while growing, but during the resting season they scarcely require any, in fact none at all, so long as their bulbs do not shrivel; still this extreme must be avoided, or their flowers will not be so fine.

208. *Lissochilus speciosus.* Plant pseudo-bulbous; bulbs two inches long, and nearly the same broad; leaves mostly in pairs, one foot long, and half an inch broad; flowers produced on a spike, of a pale yellow colour; this species requires growing in a pot with a mixture of sphagnum and turfy loam, in equal parts, with the bulbs half buried in the compost; they do not require much water, but a temperature of 65° to 70°. — *Native of the Cape of Good Hope.*

209. *Lissochilus parviflorus.* This plant differs a little from the former in the manner of growing, but more so in the flowers; it is of no great beauty, but of a singular appearance; it requires the same treatment and temperature. — *Native of the Cape.*

210. *Lissochilus streptopetalus.* Plant pseudo-bulbous; bulbs small; leaves rather long and narrow; its flowers are curious on account of the petals assuming a tortuous form, from which circumstance its specific name is derived. This genus consists of five species, which are what is generally termed Terrestrial Orchidaceæ; these in their native country are always found growing on the ground in shady places, and consequently require, when under artificial treatment, a similar situation, and should be planted in a compost of chopped sphagnum and turfy loam in equal parts; if the former cannot be obtained in a rotten state leaves will do; they require but little water; if the soil is kept just moist during their growth it is fully sufficient.

211. *Masdevallia infracta.* Plant evergreen, and destitute of bulbs, much similar to the genus Pleurothallis in growth and general appearance; the leaves are fleshy, and of a dark shining green, about five inches long; flower-spike eight inches long, bearing only one or two flowers at a time, which are small but extremely curious; instead of the usual sepals and petals it is composed of a calyx with three horns; the labellum is very small, placed in the inside; the whole of the flower is greenish-white, and the flower-spike will last for years. It requires pot-culture in a mixture of turfy peat and a little sphagnum, with a slight elevation above the rim of the pot, so as to insure a good drainage, with a temperature of 70°. — *Native of the Organ Mountain.*

212. *Masdevallia fenestrata.* — This plant is similar to the preceding in its growth and flowers, and consequently will not require any description; the treatment and temperature recommended for the other will do for this. These two are all that are at present known of this genus. — *Native of Brazil.*

213. *Megaclinium falcatum.* Plant pseudo-bulbous; bulbs three inches long; leaves in pairs, nearly six inches long; flower-spike rising from the base of the bulb nine inches long, the upper part being flat, and shaped like a sickle, with a row of flowers on each side, of a pale yellow. The plant requires pot-cultivation in a mixture of turfy peat and sphagnum, with plenty of water while growing, and a temperature of 70°. — *Native of Sierra Leone.*

214. *Megaclinium falcatum majus.* This plant has every appearance of M. falcatum, but is a much stronger-growing one. The same treatment and temperature will do also for this. — *Native of Sierra Leone.*

215. *Megaclinium maximum.* This species is the largest of the whole genus; its habit is much similar to the others, but the flowers are not so interesting; they are very small, produced on a long sword-shaped rachis, of a greenish-yellow colour spotted with red. This genus is at present but small; the whole are of easy culture, provided there is a clear drainage under the plants, which is one of the chief causes of good growth in these and all others of this beautiful and singular class of plants; when this point is attended to they will bear even an excessive supply of water while growing.

J. Henshall.

(To be continued.)

BOTANICAL LABELS.

The high and positive interest that a plant of which we know the name, history, and general properties or uses, possesses over another that we have little or no acquaintance with, even though they be equally beautiful, must have been felt by every reflective mind, and acknowledged (though perhaps unconsciously) by the greater degree of pleasure with which the former is observed or spoken of: this feeling is so universal and so strong, that to it alone may be ascribed the true foundation of the science of botany, and, as a means to the assistance and more easy enjoyment of that science, the practice of placing labels inscribed with, at least, the name to rare and favourite plants. We have on some previous occasion expressed a desire to increase this interest, by extending the practice to other and more common subjects, which are, unfortunately and improperly, too often considered unworthy the distinction — the fact being overlooked that it is thus we render them of consequence, and impart the very interest required: with the same desire we resume the subject, to describe a peculiarly neat and ingenious label we observed in use at Tatton Park, and which we mentioned in our notice of that place last month. A great object in the construction of botanical labels is to convey all the information necessary to a thorough knowledge of the plant with as much brevity as possible. The usual mode of *writing* the name, habitat, date of introduction, botanical arrangement, &c., though it may at first seem the easier mode, yet to contain it the label must be so large as to be unsightly, which we believe to have been the great objection to their general application. Now, with those we are about to describe the major part of this information is conveyed by the disposition of colours and certain dots or lines, which do not interfere with the portion that it may be necessary to write on, and which, once learned, is as easy to understand as even typography.

The form of these labels is (as we mentioned last month) the outline of a butterfly, with its wings expanded as in the act of flying; and from the base of the two lower ones the strig or tail is fastened, which is thrust into the earth to support and retain the label in its place, in the same manner as with those usually employed. They may be made of zinc, or other material of a similar nature, at a very trifling cost. After receiving two coats of white paint, the colour is laid on which is to represent the geographical distribution of the plant. For this purpose four colours are used, descriptive of the four quarters of the globe — yellow representing Europe; red, Asia; blue, Africa; and green, America: either of these colours being spread over the upper, the lower, or the whole of the four wings, will denote the northern, southern, or central part of either quarter: thus, a plant from the north of Europe would require the label to be painted yellow on the upper wings; another from central Asia should have the whole four coloured red; while one from South America would require to have the lower wings green. We might multiply examples, but we think these sufficient. The size and stations of the four wings are easily determined by their outline, and they are divided through the centre of the label by the pale brown body of the insect. Thus the native country of the plant is seen at a glance; and, the name being written across the upper, and the date of introduction on the lower wings, the label is complete for common purposes; but they go still further, expressing by dots, varied over the several parts of the label, the botanical arrangement; in those of which we speak the Linnæan system is followed. Here we think an improvement may be effected, by adapting them to the natural system, which may be done without much trouble; though any arbitrary method of expressing so many divisions and subdivisions will naturally present difficulties of some magnitude, yet with a proper key they may be surmounted. We have not yet commenced this adaptation, and therefore proceed to explain them as they are.

The system of Linnæus, it is well known, consists of twenty-four classes, with their respective orders; the first thirteen of these, and the corresponding orders, are made known on the labels by spots only; for instance, the first class, *Monandria*, is shown by one spot on the upper part of the body, and its first order *Monogynia* by one on the lower wings; the second order of the same class having two spots, one on each lower wing. The second class, *Diandria*, is known by two spots, one on each upper wing; and its first, second, or third orders by as many spots on the lower wings, the classes being expressed on the upper part of the label, by spots corresponding in number to their station in the system, and the orders, in like manner, on the lower part.

The twelfth and thirteenth classes differing only as regards the situation of the stamens, and not in their number, so here they differ only as to disposition; the twelfth, *Icosandria*, being shown by a number of small dots on the *exterior* and lower corner of each upper wing, and the thirteenth, *Polyandria*, by similar dots on the *interior* and lower corners of the same.

The following five classes are distinguished by bars or bands of black running on the margins of the upper wings. Class 14. *Didynamia* has one band on the exterior margin of each upper wing: it has two orders, the first, *Gymnospermia*, is easily known by the absence of any marks on the lower wings; the second, *Angiospermia*, has a continuation of the band which denotes the class round the lower wings also. Class 15. has two bands on the margin of each upper wing, and its orders are marked by the same absence or presence of bands on the lower ones. Class 16. *Monadelphia* is known by a single band, and one spot on the upper portion of the body. Its orders, seven in number, are distinguished by the number of spots on the lower wings, in the same manner as for the first eleven classes. Class 17. *Diadelphia* is represented by a band and one spot on each upper wing, and its orders in the manner of *Monadelphia.* Class 18. *Polyadelphia*, in addition to the band on the exterior of the upper wings, has a number of small dots disposed as explained for the twelfth and thirteenth classes: its orders are marked in the same manner as the last.

Class 19. *Syngenesia* is known by a small ring on each upper wing. It has five orders: — 1st, *Æqualis*, has no marks; 2d, *Superflua*, known by a ring on each lower wing; 3d, *Frustranea*, by two rings, with a central spot in each; 4th, *Necessaria*, has two double rings with central spots; 5th, *Segregata*, has also double rings, and a spot on the middle of the lower part of the body.

Class 20. *Gynandria* is known by a ring with a central spot on each upper wing; it has three orders, known as in Triandria.

Class 21. *Monœcia* is distinguished by a double ring on each upper wing, and its orders, eight in number, the same as the last.

Class 22. *Diœcia*, represented by a double ring and central spots; and the orders, of which there are fourteen, by the number of spots on the lower wings.

Class 23. *Polygamia* is marked by two rings, one on each wing, with several small dots in them; it has two orders: 1st, Monœcia, known by two double rings; 2nd, Diœcia, is marked by two double rings, and a central spot in each.

Class 24. *Cryptogamia* is distinguished by having no marks on the upper wings; it is now considered to consist of nine orders, though in the original Linnæan arrangement eleven are mentioned. They are known on the labels by the number of spots on the lower wings in the manner of Classes 1 to 11.

We have placed the whole of the classes and orders in the following tabular form for more easy reference, and here we must explain: those orders which occur from the sixteenth to the twenty-third class, having the names of previous classes, are marked in the same manner, only they are then placed on the lower instead of the upper wings; thus Diandria, the second class, is marked by two spots on the *upper* wings; but it occurs as the second order of the class Monœcia, and is then marked by two spots on the *lower* wings; and again, there are three orders which are distinguished by having no marks; yet no confusion need be apprehended therefrom, because they never occur in the same class, and can always be determined by the distinguishing marks of the class to which they belong: —

Class.	Marked on the upper wings.
Monandria	1 spot.
Diandria	2 —
Triandria	3 —
Tetrandria	4 —
Pentandria	5 —
Hexandria	6 —
Heptandria	7 —
Octandria	8 —
Enneandria	9 —
Decandria	10 —
Dodecandria	11 —
Icosandria	many small ones on the lower corners of the margin.
Polyandria	many small ones next the body.
Didynamia	one marginal band on each wing.
Tetradynamia	two marginal bands.
Monadelphia	one marginal band and one spot on the body.

Order.	Marked on the lower wings.
Monogynia	1 spot.
Digynia	2 —
Trigynia	3 —
Tetragynia	4 —
Pentagynia	5 —
Hexagynia	6 —
Heptagynia	7 —
Decagynia	10 —
Dodecagynia	12 —
Di-pentagynia	4 —, and three on the lower part of the body.
Polygynia	many small ones on the upper corners next the body.
Gymnospermia	none.
Angiospermia	marginal band.
Siliculosa	none.
Siliquosa	marginal band.
Æqualis	none.
Superflua	two rings.

Class.	Marked on the upper wings.	Order.	Marked on the lower wings.
Diadelphia	marginal band and two spots.	Frustranea	two rings with central spots.
Polyadelphia	marginal band and many small spots.	Necessaria	two double rings with central spots.
Syngenesia	two rings.	Filices	one spot on the body
Gynandria	two rings with central spots in them.	Equisetacæ	2 spots.
		Lycopodinæ	3 —
Monœcia	two double rings.	Marsileacæ	4 —
Diœcia	two double rings with central spots.	Musci	5 —
		Hepaticæ	6 —
Polygamia	two single rings with several central spots.	Algæ	7 —
		Lichens	8 —
		Fungi	9 —
Cryptogamia	none.		

There is nothing we can add that will explain the matter more fully, and therefore conclude by cordially recommending the adoption, either with or without the botanical arrangement, to all plants, more especially to established specimens, whether hardy inhabitants of the open garden or the tender and highly-prized ornaments of our plant-structures.

Ed.

NOTES ON NEW FLORIST'S FLOWERS.

Perhaps the following random remarks on some of the new flowers that have appeared this season may prove useful to those who are anxious to obtain the best of all novelties, and who may not have an opportunity of judging for themselves.

Pelargoniums. — But few of these favourite yet frail flowers have been seen near the metropolis this season that are destined to lead the general taste, or that at all promise to be stars of any considerable magnitude. Connoisseurs require a decided advance of some kind or other before they concede an unqualified approbation. We have already an overwhelming multitude of what may be called middling flowers, so that unless a new kind possesses in an extraordinary degree some desirable property, it is useless and inconsistent to encourage it, much less to characterise it as "first-rate," &c. The best of those exhibited at the public shows is Beck's Aurora, a good-formed rose-coloured flower, but wanting substance. Silverlock's Emperor Nicholas is of the same class, and open to the same objection. Beck's Desdemona possesses the requisite thickness of petal, and is highly coloured, the upper petals being a rich maroon from the base upwards, leaving, however, a tolerably distinct edging of pale rose colour. The lower petals are pink; and here the great fault occurs — they are not wide enough to preserve an uninterrupted circle. Foster's Sir John Broughton is an exquisite shape, but too small. Exactum is somewhat better. Catleugh's Wonder will probably prove to be the flower in greatest request next year; it is full-sized, tolerably well formed, and the markings striking and distinct.

Fuchsias. — Of these there is an abundance, though but few worth preserving. Smith's Coronet let out this season is a fine large flower, thoroughly distinct, which is more than can be said for nine-tenths of the seedlings offered to public notice; sepals nankin-colour, contrasting finely with the rich red corolla. What a pity it is that his Queen Victoria, *the* flower of last year, is not yet in the hands of cultivators generally! Hally's Highland Chief is a good variety, devoid of the usual coarseness. Pawley's Prince of Wales, a very free-flowering kind, of a rich crimson, would be very desirable if it stood more alone. By far the greater proportion of new fuchsias appear to have been obtained from *Eppsii*, a similarity pervading nearly the whole of them.

Pinks. — Brown and Atwell have a seedling called Favourite, a dark-laced flower, which promises well. Fairbairn's Bob Lawrence has proved a very useful and constant flower throughout this trying season, coming well laced when other (so-called) first-rate kinds had not a particle.

Picotees. — An opportunity has just now occurred to me to compare the rival rose-edged flowers Mrs. Barnard, Lady Alice Peel, and Dickson's Bride; and beyond question, the first-named lady still "bears the belle," taking precedence even of the Premier's daughter. Their relative qualities may be thus placed: —

Mrs. Barnard. Thin certainly, but of superlatively fine form and colour, the guard petals bold and firm enough to support a flower of twice the size (some of them measuring near two inches across); the edging clear and well defined, bright, and scarcely a break in it.

Lady Alice Peel. The petals of this flower are too angular even to allow its being *dressed* into a well-formed bloom; the edging clear, but so extremely light that in places it is scarcely seen, and the white or ground colour is wanting in density.

Dickson's Bride is, alas! inconstant—a good flower in all other respects; but it will *bar*, that is, the edging frequently strays half way down the petal.

There is another light-edged flower of the purple class, Neville's Mr. Barnard, which is very nearly a first-rate flower, but, like Lady Alice, is deficient of purity in the white; the edging is very light, but there is a sufficiency, and, as is the case with all of Neville's flowers, there is plenty of stuff.

These are but occasional jottings; but if approved of, you may expect a few more.

Observator.

Horticultural Essays,

By the Members of the Regent's Park Gardeners' Society.

VEGETABLE PHYSIOLOGY.—THE LEAVES OF PLANTS.

By Mr. T. Moore.

On a previous occasion I read to you a few remarks on that part of Vegetable Physiology which treats of the elementary organs and the root and stem of plants; and I did so, with the view of making that paper preliminary to another on a series of important organs, viz. the leaves. In entering as I then did on a consideration of the elementary parts of plants, I had in view the abbreviation of the present paper, by referring you to what has been already said of these primary organs, which would equally refer to whatever form or modification of them we might be considering.

Whilst the root has been pointed out as the descending axis of the plant, the stem has been noticed as the ascending axis, or that part whose tendency is to rear itself at least to the light, if not actually to assume a vertical position. Around this ascending axis, as it becomes developed, other parts which are most important in the vegetable economy are developed also; these are called the appendages to the axis, the principal of them being those parts known as the leaves, the bracts, and the flowers, which latter, containing within them the reproductive system, are followed by the fruit, or seed. All these apparently differing parts have a similar origin; they all, when in their latent condition, form part of the same cylinder or cone of organisable matter, and are successively developed as that cylinder becomes extended. In this latent state there is no separation of matter, into that which shall be expanded in the form of leaves, and that which shall assume a more perfect character, and be developed as floral organs; and therefore it requires no very forcible arguments to maintain, that the bodies of tissue which we call leaves, and flowers, and fruit, are only differently formed extensions of the same original mass, and owing that difference to the vital action of the plant, and to the influence which is exercised by the circumstances in which it is placed.

The purpose of Creative Wisdom is to perpetuate each race, among the vegetable as well as in the animal creation; and as regards that part of his works which we are now considering, we may believe that whilst leaves are necessary as organs of nutrition, flowers are necessary as organs of reproduction; and with this view, we cannot too fervently adore that Power which can ordain the production of such varied forms from the same simple source, these all being, as we have seen, mere extensions of the same elementary substance, and of the same individual.

We cannot fail thus to be deeply imbued with admiration at the perfect simplicity, and at the same time, the faultless skill, with which all the machinery is constructed on which depends the preservation and progression of vegetable beings; and whilst our minds are thus filled with admiration at their perfect mechanism, we shall be led, silently, it may be, but not the less fervently, to acknowledge that the hand which formed them is divine. A few original forms of tissue blended and interwoven horizontally and perpendicularly together constitute a stem; from the developement of buds by the stem, which grow and extend on the same principle as itself, maintaining a succession of similar organs, an extension and increase of the vegetable structure is effected; the expansion of the bark in the form of leaves, within which are ramified numerous veins proceeding from the seat of nutritive matter in the stem — together with the provision of air-passages in their substance, and of evaporating pores on their surface — these provide the means whereby the crude fluid imbibed from the soil, and impelled upwards by the roots, is elaborated and assimilated by chemical union with the constituents of the atmosphere, until it finally becomes either a secretion peculiar to the species, or is made supplementary to its increase. But hitherto we have mentioned only a stem producing branches, and these again bearing leaves: an abundant secretion of food by means of these essential organs, assisted by a peculiar and mysterious vital process, induces, however, a fuller degree of developement, by means of which they are produced in a changed form, and in an aggregated position — in other words, the principle of life, having attained to its ultimatum, becomes arrested in its course of extension, and is diverted into a new channel for the perpetuation of the species. In illustration of this, I may refer to the contraction of the internodes, and the consequent coalescence of a branch and its leaves, which forms a flower; to the disintegration of the internal tissue of a petal, which forms an anther; to the folding inwards of a leaf, which constitutes a pistillum; and to the distension of this organ by an abundant supply of fluid it cannot part from, which produces a fruit. The admirable skill thus evinced in every part conveys the most forcible argument, that as a work of design they are perfect and unapproachable. But does any one ask, Why, then, if such a process is universal, do individual flowers and fruit vary in their exterior configuration as well as their internal character? I answer — no one can tell: but let me point to the constant change of one part to another, which an attentive eye may discern; to the production of bulbs in the axils of the leaves of some plants, such as the lilies, and the production of bulbs in place of flowers, as in varieties of onions; to the production of plants on the panicle of viviparous grasses — instances showing the identity of character between buds, bulbs, and seeds, and also the similarity, if not identity, of their originating sources: and, weighing well these matters without partiality and prejudice, the truth-seeking and unsophisticated mind will assent to the fact which has already been stated.

My present object is not, however, to deal directly with this portion of the subject, but to endeavour to direct your attention to the structure and the properties of the LEAVES of plants.

Leaves are produced by the extension of the woody and vascular tissue of the stem, and of the cellular tissue of the back of the plants by which they are borne; and they occur immediately below where the force of the vital action has either formed a latent or protruded an active bud: by a parity of reasoning, buds are always present immediately above where leaves are connected with the stem, and to the non-developement of these at the time of their organisation may be attributed the appearance of those adventitious branches which we sometimes see sprouting from a hardened stem: it is this property in a great degree which enables us to manipulate at our pleasure the plants and trees under our care; and it also admits of being turned to account in the processes of propagation.

Leaves consist principally of cellular tissue, which is traversed by the vascular system. In exogenous plants these vessels may be seen interlacing each other, and forming a network of extreme delicacy; and in endogenous plants they run throughout nearly parallel with the margin, and branch very little, if at all: they are, in all cases, connected with the vessels of the stem. The cellular matter of leaves is called *parenchyma*, and, together with the vessels, is covered by a skin called the *cuticle*, which has, on the occasion already noticed, been alluded to as being itself composed of cellular matter in a state of extreme compression. In water-plants that have their leaves submersed, the cuticle is absent, but it exists on all the parts of plants which are exposed to the atmosphere, except the stigma. The arrangement of the bladders, or cells of tissue, forming the cuticle, differs materially from that of the parenchyma, for in the cuticle they are much depressed in figure, and adhere firmly, assuming a variety of outline in consequence of pressure; they differ, also, in their nature, being perfectly transparent and colourless: probably they are filled with air. There is no trace of vessels either existing or terminating in the cuticle of the leaves, and therefore the opinion entertained by some physiologists, that spiral vessels end in the stomates must be laid aside. *Stomates* are small pores or openings of the cuticle; they vary much in their position; thus in some leaves they exist only on the under side, in others, on the upper surface only, and in some on both. Floating leaves have them only on the upper surface, whilst leaves whose margins are vertical, or nearly so, have them on both sides equally. In succulent plants they are very scanty and imperfect. It has been calculated, that the leaves of an orange tree and those of a Mesembryanthemum vary in this respect in the proportion of ten to one.

(*To be continued.*)

LIST OF NEW PLANTS.

CRASSULACEÆ. — *Dodecandria Dodecagynia.*

Æonium Youngianum. This plant, hitherto only known from a brief Latin description in Webb's "Natural History of the Canaries," flowered in June 1843, in the nursery of Mr. Wm. Young of Milford, near Godalming, after whom it was named by Mr. Barker Webb, who discovered it in the Canaries. It appears nearly allied to *Æonium* (*Sempervivum*) *arboreum*. — *Bot. Reg.*

ERICACEÆ. — *Decandria Monogynia.*

Andromeda phillyreæfolia. A very neat greenhouse shrub, introduced lately by Messrs. Loddiges, with whom it flowered for the first time in January last. It was originally discovered in West Florida by the late Mr. Drummond. One of the most striking characters in this very distinct species is the peculiar darkness of its leaves, which thus are able to set off the snow-white flowers to great advantage: they look like pearls on a negro's neck. — *Bot. Reg.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Calanthe masuca. This charming plant was flowered by Messrs. Rollison in June 1843: it is a native of Nepal, and may be regarded as the gayest of the terrestrial species of that rich country, being conspicuous both for the large size of the flowers and their fine colour. From the other purple species allied to it this is readily known by the leaves as well as by the flowers: *C. versicolor* has leaves smooth on both sides; *C. purpurea*, downy on both sides, especially beneath; while this has down only on the under side; *C. versicolor* has white sepals and petals, *C. purpurea* and this, purple ones. While, however, *C. purpurea* agrees in the colour of its flowers, its lip is altogether different, being very narrow, with the lateral lobes quite round, the contrary being the form of that of the present species.

C. masuca should be potted in turfy heath-mould, mixed with a few pieces of potsherds: in summer it should receive an ample supply of water at its roots, and, where it can be avoided, little should be allowed to fall on its leaves, otherwise the young shoots will damp off. It enjoys a humid atmosphere and a high temperature; but as the leaves are very delicate, they will soon become scorched if shading is not carefully attended to. In winter little water will be required, but just sufficient to keep the bulbs from shrivelling. This is one of the most difficult of orchidaceous plants to grow well. — *Bot. Reg.*

RHAMNACEÆ — *Pentandria Monogynia.*

Ceanothus thyrsiflorus. A perfectly hardy shrub as this is, with evergreen foliage of the most beautiful glossy green and dense panicles of bright blue flowers, is indeed an acquisition to our gardens. In all respects this is one of the most valuable things that has been introduced for years. The country owes it to R. B. Hinds, Esq., who, while surgeon to the "Sulphur" surveying-ship, occupied himself with botany: he describes it as being common at San Fransisco and Monterey. It was also found by Douglas in California, where it forms a small tree completely loaded with dense masses of bloom. It flowered in the gardens of the Horticultural Society in May last, planted against a south wall. A considerable number of plants have been distributed by the Society under the name of *C. divaricatus*, which species it was at first supposed to be; now, however, that it has flowered, it proves to be *C. thyrsiflorus*, and the first name has to be changed. — *Bot. Reg.*

LEGUMINOSÆ. — *Diadelphia Decandria.*

Clitoria fulgens. An elegant twining plant with long, slender, and slightly hairy stems, with handsome foliage, having a smooth bright green upper surface, and the lower side of a paler hue, closely covered with numerous very short soft hairs; from the axils of the leaves the flowers are produced in a clustered head, supported on a stiff and wiry peduncle, five or six inches long, elevating them sufficiently above the foliage to display, without interruption, the bright and glowing scarlet blossoms, which promise to be abundantly produced. Seeds of it were received by Messrs. Veitch and Sons, of Exeter, in the spring of 1841, from their collector, Mr. W. Lobb, who found it on the Organ Mountains of Brazil. A specimen of it was exhibited at the Horticultural fete at Chiswick in May last, as a species of *Centrosema*, one of the divisions of the genus *Clitoria.* It thrives well in a mixture of peat, loam and sand, and has hitherto been cultivated in an intermediate house. — *Pax. Mag. Bot.*

LEGUMINOSÆ. — *Polygamia Monœcia.*

Acacia cultriformis. A very elegant and free-flowering species, closely allied to *A. dolabriformis* and *A. scapuliformis*, from New Holland — *Pax. Mag. Bot.*

TROPÆOLEÆ. — *Octandria Monogynia.*

Tropæolum Lobbianum. A very desirable new species of Indian cress, which justly bears the name here given to it by one of our most distinguished and liberal cultivators, Mr. Veitch, of the Nursery, Exeter.

It was detected by his collector, Mr. Lobb, in Columbia, and sent home in the early part of 1843, and bore its handsome and bright-coloured flowers in November of the same year. Trained upon those wire-trellises which are now so commonly fixed to garden pots, it makes a charming appearance with its delicate leaves and bright flame-coloured flowers. It bears some resemblance to a small *T. Moritzianum.* — *Bot. Mag.*

ORCHIDEÆ. — *Gynandria Monandria.*

Lælia peduncularis. A lovely species, sent from Guatemala, by Mr. Skinner, to Woburn.

Pseudo-bulbs ovate compressed, obscurely furrowed near the margin, more or less sheathed with large brown scales at the base, and bearing a single oblong, obtuse, thick, coriaceous leaf at the extremity. From the base of this leaf the peduncle arises, a span to nearly a foot high, slender, articulated, and sheathed at the articulations, five or six flowered at the top.

Flowers rather small, delicate, lilac-rose colour, with a deep purple eye in the centre of the lip; sepals spreading, equal, lanceolate; petals resembling them, but larger and broader; lip standing forward, lilac, about equal in length, with the sepals and petals oblong, three-lobed, tapering at the base, with the sides there inflected so as to embrace the column. The lateral lobes acute, spreading, the middle lobe ovate, oblong, obtuse, even retuse at the apex, waved and striated. The disk towards the base is marked with an elevated and striated broad line, and the colour is deep purple. Column rather short, semi-cylindrical, dark red purple, especially in front. Anther-case hemispherical. — *Bot. Mag.*

BEGONIACEÆ. — *Monœcia Polyandria.*

Begonia Meyerii. Of this fine species of begonia, received from the Berlin Garden, I regret I know nothing concerning the history, nor of what country it is a native, nor can I find it anywhere described. It is a handsome, tall-growing species, with erect, branching, stout and almost woody stems, marked with the broad scars from the petioles of fallen leaves. Leaves large, broadly and obliquely ovate, rather thick and fleshy, with an auricle on one side, at the base pale green, more or less tinged with red, the margin waved and subsinuate; the whole upper and under surface and thickened petioles covered with a short and compact hoary pubescence or woolly substance; peduncle very long, axillary, tinged with red, downy, bearing a somewhat close many-flowered panicle of large handsome white flowers. — *Bot. Mag.*

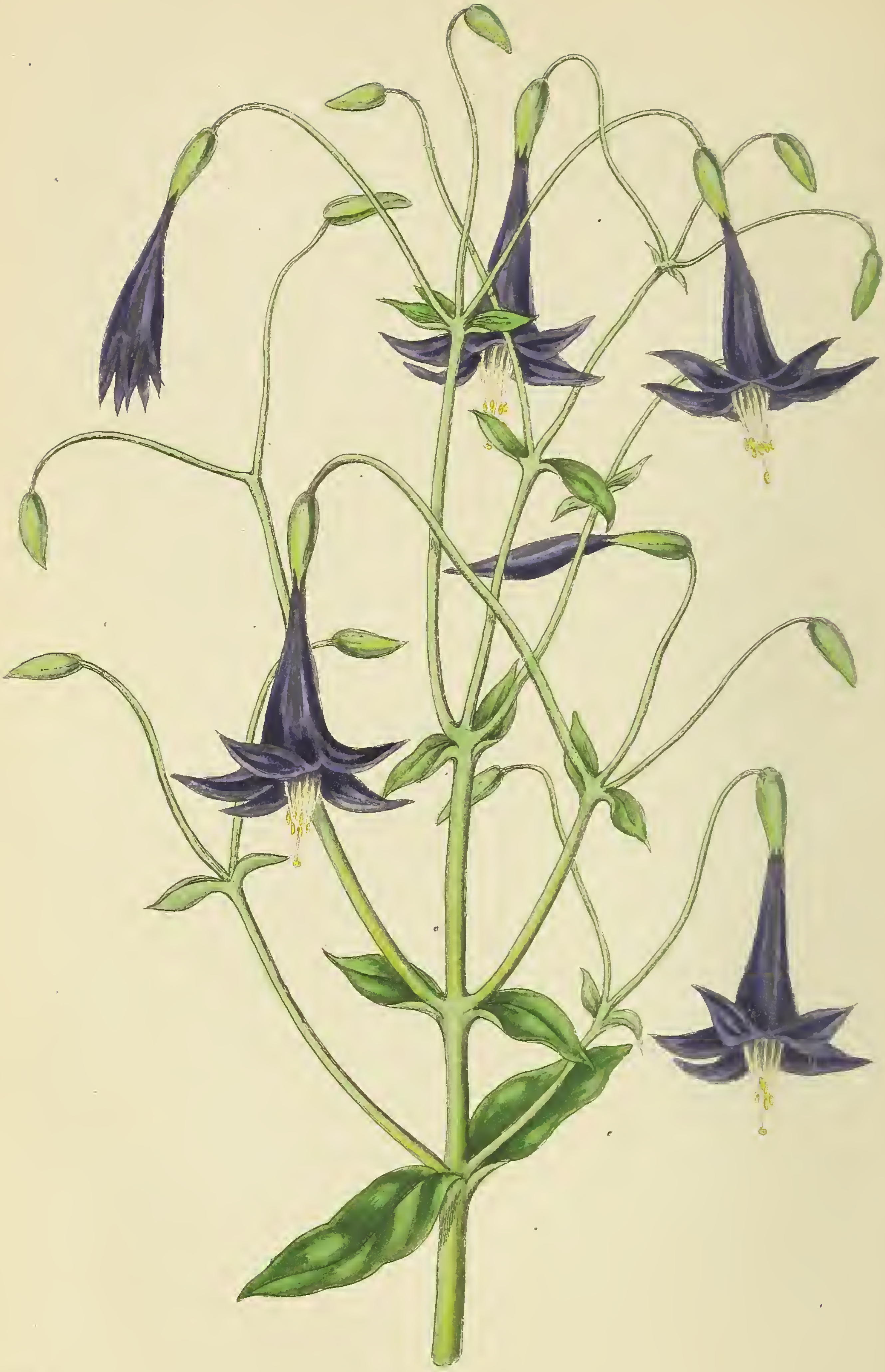
CALENDAR FOR AUGUST.

Stove. Perhaps there is no general direction which can be given that is of more importance than that which would recommend at this particular period, and henceforward a month or two, the exercise of the greatest degree of care and consideration to have the summer growth of plants generally, and especially that of all those whose period of excitement is continued over a considerable portion of the autumn, so arranged and circumstanced as to secure its perfect maturity — or, in gardening terms, to have it " well ripened." The proper means to have recourse to, in order to effect such an object, are principally these : — to avoid the application of *moisture* beyond what is necessary to prevent a decided check in the growth of the plants ; to expose them to the influence of *light*, by not suffering them to crowd or overhang each other ; and to prevent, from any cause, the too sudden declension of the average *temperature* to which they are exposed. There are of course exceptions to these rules ; but, nevertheless, they should be *generally* observed.

Greenhouse. The prevention of a too-long-continued season of growth, and the " ripening" of such as may have already been obtained, should be the more especial points claiming attention, with reference to plants of value and rarity ; and these ends may be brought about by the application of the same principles as have been already referred to. The amateur may rest assured that so long as he acts in conformity with these principles, his plants are safe ; and that it is of no importance whatever as to what *means* he may employ to secure their application. It is now a good season to propagate many of the free-growing plants, in order to have neat healthy plants to keep through the winter, large ones being often too cumbersome. There are, however, many plants which do not flower so well when small ; but these must be ascertained by experience, and cannot be here specified.

Flower-Garden. No trouble taken now to secure a supply of half-hardy and summer bedding plants, in a young state, and to increase their size between the present time and next planting season will be lost, if the production of flowers next year be properly taken into account. The principal difficulty consists in the space required to preserve them through the winter in a healthy state, and to submit them to a gentle excitement in the early spring months. These remarks tend towards another; viz. that however desirable, on account of space, it may be to preserve vast quantities of these kind of plants crowded together in cutting pots during winter, or, on the other hand, to depend on spring propagation for a supply of plants, neither method can be regarded as that *most conducive* to gaiety and display during the ensuing season. When it is considered how little an amount of protection, *judiciously applied,* such plants require for their preservation, and the advantages of having strong and established plants at the planting season, it is surprising that no greater efforts should be made, not only to propagate early in the summer, but also to provide that kind and degree of protection which would render such a step eventually successful. The trimming up of all plants whose meridian of beauty is past, and the securing of all those which are advancing, continue to be necessary operations. For the rest, the season and the particular circumstances of each case will speak to the intelligent mind. Among florists the Auricula will this month require attention, this being the approved season for re-potting: it will be found that nearly every grower varies his compost for this plant, by the addition or omission of a small quantity of some out-of-the-way manure, and imagines all his success depends on its presence, or the contrary, as the case may be; but the tyro is advised to abstain from the use of any excessive stimulants, and grow his plants in fresh rich loam, leaf-mould, and a little well-rotted hotbed manure, trusting mainly to an effective drainage. The layering of Picotees and Carnations must be finished speedily.

T. M.



LISIANTHUS NIGRESCENS

THE

FLORIST'S JOURNAL.

September, 1844.

THE GENUS LISIANTHUS.

WITH AN ENGRAVING OF L. NIGRESCENS.

This small genus, known to cultivators chiefly through *L. Russellianus,* as an extremely beautiful but equally difficult portion of the vegetable kingdom, has lately received some interesting additions, which, together with an improved method of treatment, made known to the horticultural world through the liberality of Mr. Cuthill, florist, of Camberwell, promises to render it of far more general interest than has yet been its fortune to obtain.

In looking through the extended range of floral beauties tended with all care and assiduity throughout the breadth and length of our flower-loving land, we may find every variety or kind of colour, either in bold and vivid fulness or shadowed forth in half tints: in some degree or other, every shade or mixture of shades is present, except one — and that is, black — an instance that has been prettily introduced in allegory, as typical of the innocence and joyousness of flowers; yet such is the contrariety of human nature, that the absence of even this sombre colour has been, and is, matter of regret, and any approach to it hailed as an advantage gained. Without questioning the justness of this taste, the subject of the present paper offers matter of congratulation in its very near approach to the much-coveted colour, its flowers being, when first opened, of so dark a colour as to be easily mistaken for pure black, and though certainly much smaller than those of *L. Russellianus,* yet they are produced in such abundance as to compensate for the want of size; an ordinary raceme bearing from twenty-five to forty flowers, nearly the half of which will be open at one and the same time, presenting thus a large well-filled head of bloom.

L. nigrescens is a native of Guatemala, where it was discovered by Mr. Skinner, and by him seeds were sent to the Royal Botanic Gardens at Kew in 1842-3, and the resulting plants flowered in the stove at that place in the autumn of last year. Seeds of it were also transmitted from the same rich country, and through the same gentleman, to J. Bateman, Esq. of Knypersly Hall, Cheshire, in a manner that should render the receivers of importations particularly careful of even the rubbish of their packages: this plant (like the *Achimenes hirsuta* of Messrs. Henderson) was introduced to the collection at Knypersly in a mass of Orchidaceous plants, the seed having fallen among them in their native land, and shot forth from the influence of the warm atmosphere in which they were placed on their arrival. We have heard that another species was received at Kew along with our present subject, said to produce white flowers, and called, we believe, *longiflora*; but as we have not seen the plant, or received positive authority for the intelligence, we refrain from saying more about it.

L. Russellianus was introduced from Texas in 1835, and in cultivation must be taken as the type of the genus, for so far as we have yet gone with *nigrescens,* we have assimilated their treatment, and find them succeed equally, the difference, if any, being in favour of the new one, which certainly appears to be of more easy management.

As we have based our own method of growing this plant on the practice of Mr. Cuthill, who is beyond question the most successful cultivator of Lisianthus near London, we cannot do better than give his mode of treating them in his own words:—"The best time to sow the seed is in March, and as the seed is extremely small, it requires particular care. If deposited in the usual way upon loose soil, the first watering carries the seed along with it, and hence the failure. Prepare the following compost—half loam, the other half leaf, peat, or bog-mould, and a little sand; place plenty of drainings in the bottom of a 48 or 32 pot; fill it with the compost very tight, and on the top place half an inch of sand; damp the sand with water to harden the surface; sow the seed, and sprinkle a very little dry sand on the top. Place a propagating glass over the pot, or a piece of flat glass will do, place the pot in a heat of 70° or 80°, with a pan under for future watering; at no time water on the top, but the pan ought never to be allowed to get dry. The seedlings will appear in three weeks or more; when about three weeks up, plant them singly in a 60-pot, in the same compost, with plenty of drainings in the bottom. Place them again in the back of your cucumber-pit or frame; after this you cannot give them too much water over head and in the pans, and by the autumn, if they have been kept in a good growing heat, they will be fine little bushy plants. Top them at every joint; in September shift them into large sixties, merely to keep their roots in a more intermediate state for the winter; after this, all top watering must cease, and a pan placed under each pot to receive the watering. As the winter approaches, not a drop of water must be allowed to fall on the plant. The drier the top mould next the leaves and stem, the more certain of preserving the plant. The best place I have found is a one-light pit heated with a lining of dung from 50° to 60°, air being given front and back, so that no damp can fix on the bars and drop on the plants. The second best place is the coldest part of the stove, very near the glass; I have also kept them well in the warmest part of the greenhouse; in all cases, water just sufficiently to keep the plant from flagging; if the winter is dry, once a fortnight, if damp, once a month or so. Towards the end of February place them in a cucumber-pot or frame, in a heat of from 70° to 75°, and when they begin a fresh growth, shift them into as large pots as convenient, remembering the larger the pot the finer the specimen. My largest plant last year had 600 blossoms on it, and was grown in a No. 8 pot. As the spring advances, it is almost impossible to give too much heat and moisture. They are very fond of liquid manure. It is useless to attempt to grow a fine plant in any place approaching to a dry heat, or in a temperature of less than from 70° to 80°. I have grown them five inches in seven days. In removing them out of the pits, great care must be taken to prevent the sun shining on them for some days, as the change from a damp close heat to a dry house will be too much for them. By the above treatment they will come into flower about the middle of July, and keep blooming from two to three months."

By attention to these rules, in which it appears that a high temperature, combined with great humidity, are the essential points, and some amount of practical tact, success may be regarded as nearly certain.

The genus contains, besides those mentioned, seven other species, all of them ornamental, though but seldom met with, which may be accounted for by the acknowledged difficulty hitherto experienced in preserving them through our long and often severe winters. They are chiefly natives of the West India Islands, and of South America, the home of many of our most beautiful plants. Lisianthus is derived from *lysis*, dissolution, and *anthos*, a flower, in allusion to its being a powerful cathartic. It is included in the natural order *Gentianaceæ* and in the Linnæan arrangement will be found in Class 5. Order 1.

EDITOR.

HORTICULTURAL ESSAYS,

By the Members of the Regent's Park Gardeners' Society.

VEGETABLE PHYSIOLOGY. — THE LEAVES OF PLANTS.

By Mr. T. MOORE.

(*Continued from page* 168.)

THE anatomical structure of a leaf, therefore, is this: from the medullary sheath a bundle of woody tissue diverges, accompanied by spiral vessels, and passing through the bark produces numerous ramifications, forming a kind of network. At that point of the stem where this matter issues, the cellular matter of the bark diverges also, and becomes expanded with the ramifications of the fibro-vascular tissue. This latter having proceeded to the extremity of the leaf doubles back and returns beneath, forming a separate layer of fibre, which, converging with the stem, finally connects itself with the liber; the upper layer of network is, therefore, in connection with the medullary sheath, and the lower with the liber. The remaining portion of the leaves is parenchyma, enveloping these vessels, and the whole is covered by the cuticle. Leaves generally become articulated with the stem at the point whence they diverge, and thus they are enabled to separate from it on decaying ; but this is not quite universal.

For the most part, leaves are formed of two distinct portions, which are called the *petiole*, or stalk, and the *lamina*, or blade, both of which demand our attention.

That part of the blade, or lamina, which is situated nearest the stem, is called its base ; the opposite extremity is the apex ; and the line of its edges is the margin. If the blade consists of one piece only, it is said to be *simple ;* and the same term applies also to all leaves which are not articulated with the petiole, whatever may be their form, division, or outline : thus, the entire blade of the box tree, the serrated blade of the apple, the toothed blade of the coltsfoot, the runcinate blade of the dandelion, and the pinnatifid blade of the hawthorn, are equally to be regarded as simple leaves, because they are not articulated with their petioles. On the other hand, if the blade be articulated with its petiole, it is considered as a *compound* leaf, with equal disragard to its figure ; the apparently simple blade of the orange tree, and those of the barberry, being no less truly compound than those of the Acacia or Mimosa.

The ramifications of the petiole among the tissue of the blade are called *veins*, and their distribution the *venation :* the course taken by these ramifications determines, in great measure, the form of the leaf, and is deserving of consideration. The vein which forms a continuation of the petiole is termed the midrib, from which others, diverging to the margins, produce what is termed venation, or reticulation in the leaves. If similar veins to the midrib pass through the leaves in the same direction, such leaves have been called nerved leaves. This term has been objected to, on the ground that expressions perfectly understood as applying to a particular organ in the members of one kingdom of nature, if indiscriminately applied to different organs in the members of another kingdom, must be destructive of anything like accurate ideas in natural history ; and taking the present case as an example, persons might be led to suppose that these so-called nerves in plants performed functions similar to those of animals, while the fact is, that they are merely channels for fluids. In place of this, it is proposed to call these veins, which extend from the base to the apex of the leaf, *ribs ;* those which diverge from them, *primary veins;* and the lesser veins, which occur near the margin, and also connect the primary veins, are proposed to be called *curved veins, external veins, costal veins, marginal veinlets,* and *proper* or *common veinlets,* according to their position and office. By this scheme leaves are divided into ten classes: viz. *Veinless,* or such as have no veins; example, *Ferns. Straight-veined,* in which the veins are entirely primary, arising from near the base of the midrib, with which they lie nearly parallel, and are connected by proper veinlets; ex. *Grasses, Palms, Orchideæ. Curve-veined,* a modification of the last, in which the primary veins are parallel, and diverge from the midrib throughout its whole length, losing themselves in the margin, but not passing from near the base to the apex; ex. *Scitamineæ. Netted,* which is the common form of reticulation in the leaves of dicotyledonous plants; ex. *Rose. Ribbed,* where three or more midribs proceed from the base to the apex, and are connected by branching primary veins; ex. *Melastomæ. Falsely-ribbed,* when the curved and external veins in a reticulated leaf become confluent with the margin, as in *Mystaceæ. Radiating,* when several ribs radiate from near the base of a reticulated leaf to its circumference, as in *palmate* leaves. *Feather-veined,* where the primary vein of a reticulated leaf passes in a right line from the midrib to the margin; ex. *Castanea. Hidden-veined,* which includes such as have the appearance of venation obliterated by an excess of parenchyma; ex. *Hoya.**

With regard to their figure and outline, leaves vary greatly; and a corresponding multiplicity of terms have sprung into use in order to express these variations: these, however, are too numerous to be further noticed here, especially as the form, being in many cases variable, is regarded to be a point of secondary importance in all investigations of the nature of plants. In like manner, there are numerous diversities of surface, and of margin, with expressive terms by which they may be readily known.

The stalk or petiole connects the blade with the stem; it consists of the same kind of substance as the leaves, and is generally of a half cylindrical figure, though sometimes it occurs as a thin leafy expansion surrounding the stem; sometimes it is absent, and the leaf is then said to be sessile. In simple leaves the petiole is continuous with the axis of the lamina, from which it never separates; but in truly compound leaves it is articulated with each stalklet, so that when the leaf perishes it separates into as many parts as there are leaflets. Hence, if an apparently simple leaf is articulated with its petiole, as in the orange, such a leaf is not to be regarded as a simple one, but as the terminal leaflet of a pinnated compound leaf, the lateral leaflets of which are not developed.

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* Specimens in illustration of this view of venation were provided for the use of the members present.

The petiole, though occasionally absent, as in some few plants with sessile leaves, is sometimes found to supply the place of leaves, and in this character is called *phyllodia:* the so-called leaves of a great number of Acacias are of this nature, the phyllodia being developed so as to assume the appearance, as well as exercise the functions, of true leaves; they may be known from the latter, by their surfaces being alike, by presenting their margins, not their surfaces, to the earth and heavens, and by their being straight-nerved, which, as they occur among dicotyledonous plants having reticulated leaves, is alone sufficient to distinguish them.

In some cases the petioles become hardened, and they then assume the appearance of *spines*, as in the common barberry; the spiny petioles of some leguminous plants are of the same nature. In some cases the petiole is elongated, and endowed with the power of twisting around any small body near it, as in the pea; in other cases it passes in the form of a twisted midrib beyond the apex, as in Gloriosa. The pitchers of Nepenthes and Sarracenia are supposed to be modified petioles.

The usual posture of leaves on the plant is with their surfaces presented to the sky and earth, but this is not universally the case: the effect of imbrication in some instances, and of deflexion in others, is to bring the upper or lower surface respectively in a line nearly parallel with the stem; and in some cases, especially in such plants as bear phyllodia, the margins are presented to the sky and earth, generally, though not always, by means of the twisting of the petiole.

The position of leaves on the stem varies considerably, although their disposition seems to be regulated by the same fixed laws which are so admirably displayed in all the works of creation. Sometimes leaves are placed opposite, and sometimes alternate; but it seems to be probable that the normal position of all leaves is alternate, and the whorls of opposite leaves, which sometimes occur, result from the contraction or non-development of the internodes. The true position of leaves, with reference to the stem, appears to be that of an elongated spiral, and in many trees this direction can be readily traced; as, for example, in the genus Pinus, and more particularly in Pandanus, which, in consequence of such a distribution of its leaves, is named the Screw Pine. The apparently irregularly arranged leaves of an Apple, a Willow, or almost any common tree, will also serve to illustrate the same; for if a line be drawn from the base of one to that of the next above it, and continued upwards, it will be found to have described a true spiral: it may also be remarked, that those leaves which are usually opposite betray a manifest tendency to become alternate, or thus revert to their normal position. This question may, however, be carried to a much greater length, and the spiral direction of leaves may be proved mathematically; even the particular nature of the spires, with reference to individual species, have been ascertained to be subject to fixed laws, which admit of definition. Brunn, a German botanist, has published an elaborate memoir, in which he has thrown much light on this interesting subject; and among our own countrymen, Professors Henslow and Lindley may be mentioned, as having particularly directed their attention towards it. The observations and remarks of Professor Henslow, which are deserving of the greatest deference, have very much simplified what at first might seem to be obscure; the scales of a fir cone, which are only pistillary leaves, developed around a changed stem, he has demonstrated to have a spiral arrangement, by very instructive diagrams and mathematical calculations; for these, which are possessed of much interest, I must refer to his remarks on "Structural and Physiological Botany," which form part of the "Cabinet Cyclopædia." I pass over this part of the subject the more readily, in consequence of its near relation to the doctrine of Morphology, which a brother member has undertaken to explain.

October, 1843.

(*To be continued.*)

LIST OF ORCHIDEÆ.

(*Continued from page* 158.)

216. *Maxillaria Parkerii.* Plant pseudo-bulbous ; bulbs dark green, rather flattish ; leaves single, eighteen inches long, and two inches broad ; the flowers are produced in clusters ; sepals buff colour ; petals nearly white, striped with red at the base ; column crimson at the base, and white towards the helmet ; the upper part of the labellum is yellowish buff, with a white margin. This species requires pot cultivation, in a mixture of turfy peat, sphagnum, and a few potsherds, and the plant elevated about three inches above the rim of the pot : it also requires a free supply of water during its growth, though but very little while at rest. The temperature required is from 65° to 70°. — *Native of Demerara.*

217. *Maxillaria graminifolia.* Another beautiful pseudo-bulbous plant, with bulbs one inch long, rather flat, and two-angled ; leaves single, nearly two feet long, and one quarter of an inch broad ; the flowers rise singly from the base of the bulb ; sepals and petals pale yellow, spotted at the base, and blotched at the apex with red ; column green towards the helmet, but spotted near the base ; the ground colour of the labellum is nearly white, and beautifully spotted with dark red. This succeeds with the same treatment and temperature as the above. — *Native of Demerara.*

218. *Maxillaria vitellina.* Another beautiful pseudo-bulbous plant, with bulbs rather more than one inch long ; its leaves are single, of a lanceolate form ; the flowers are yellow, with a remarkably curious rich deep brown spot in the centre of the labellum. This also requires the same treatment and temperature as the others. — *Native of Brazil.*

219. *Maxillaria fucata.* Plant pseudo-bulbous ; bulbs two inches long, and rather flat, of a shining green ; leaves single, one foot long, and about an inch broad ; the flowers are produced on a short foot-stalk, of a greenish yellow ; the column has a slight spotting towards the helmet : the labellum is both spotted and blotched with brown. This species is not very beautiful, but is of free flowering habit. It requires the same treatment and temperature as the others. — *Native of Brazil.*

220. *Maxillaria marginata.* Plant pseudo-bulbous ; bulbs better than two inches long, rather deeply furrowed ; leaves in pairs, nine inches long, and about an inch broad ; flowers produced on a long slender foot-stalk of a purplish cast ; the sepals and petals pale yellow, margined with pale purple ; labellum yellow, with a broad margin of deep purple. This also is not very showy, but a free flowerer. It requires the same treatment and temperature. — *Native of Brazil.*

221. *Maxillaria aurea-fulva.* Plant pseudo-bulbous ; bulbs two inches long ; leaves single ; flowers produced on a spike, eight inches long, of a fine golden brown, several in number. This species is but small, but is worthy a place in all collections ; it will also do with the same treatment and temperature as the others. — *Native of Rio Janeiro.*

222. *Maxillaria tenuifolia.* Plant pseudo-bulbous ; bulbs small ; leaves eighteen inches long, and very narrow ; flowers produced on a short foot-stalk, of a green and yellow colour, spotted with scarlet. This species requires to be elevated considerably above the pot ; but in other respects the same treatment and temperature as the above. — *Native of Mexico.*

223. *Maxillaria Harrisonii.* Plant with large pseudo-bulbs and strong leaves, produced singly; the flowers are mostly produced in pairs with the sepals and petals of a pale yellow cast; labellum nearly white, marked with red, and very fragrant. This species requires a long resting season, and rather a dry one, but not so as to cause the bulbs to shrivel, which will be a great drawback to its flowering. In every other degree the same treatment and temperature as the others. — *Native of South America.*

224. *Maxillaria Harrisonii var. atro-purpurea.* This plant is much similar in its growth and mode of flowering, but differs in the colour, this one being of a dark purple; the usual treatment and temperature will do for it likewise. — *Native of Brazil.*

225. *Maxillaria ochroleuca.* Plant pseudo-bulbous; bulbs nearly four inches long, rather flat; leaves single, eighteen inches long, and one inch broad; the sepals and petals of the flowers are yellowish white with the labellum yellow. This species is rather singular, but not so beautiful as would be imagined by the growth of the plant; it requires the same treatment and temperature as the others. — *Native of Brazil.*

226. *Maxillaria Barringtonii.* Plant with pseudo-bulbs of a pale green; leaves in pairs, eight inches long; flowers rather large, of a muddy yellow, and a ciliated labellum. This is a rather difficult one to flower, but of no great beauty; it requires pot cultivation, in a mixture of turfy peat, sphagnum, and rotten wood, and a free drainage, so that it may be liberally supplied with water while growing, but requires very little when at rest. The temperature should range from 65° to 70°. — *Native of Jamaica.*

227. *Maxillaria picta.* Plant pseudo-bulbous; leaves in pairs; flowers produced on a slender footstalk; the sepals and petals being of a rich deep orange colour, spotted with purple within, the outside being almost white, having spots and blotches of dark purple; labellum of a cream colour, slightly spotted; the column is of a deep purple. This species is a very free flowering one, and requires a mixture of sphagnum, turfy peat, and small potsherds well mixed together, and a little elevation; it also may be watered freely during its growth, but afterwards should be allowed a long rest, to cause it to flower well. The temperature, when growing, should be from 60° to 65°. — *Native of Brazil.*

228. *Maxillaria cristata.* Plant pseudo-bulbous; bulbs better than two inches long; leaves in pairs, nine inches long; flowers produced on a slender stem; the sepals and petals are almost white, much braided and spotted with crimson; the labellum is bearded, and of a dark crimson colour. This is a most lovely species, and should be grown by all cultivators both for its singularity and its beauty. The treatment required for it is a mixture of sphagnum, turfy peat, and potsherds, and to be elevated about three inches above the rim of the pot, sloping the mould a little down to the rim. Water may be given freely to it while growing, but while at rest it will scarcely require any, at least only just sufficient to keep the bulbs from shrivelling. The temperature should be, while growing, from 65° to 70°. — *Native of Trinidad.*

229. *Maxillaria Mackaii.* Plant pseudo-bulbous; bulbs one inch long, of a pale green; leaves produced single, from twelve to eighteen inches long; the sepals and petals of the flowers are of a rich reddish brown; labellum whitish, with deep narrow spots. This is another beautiful species; it requires the treatment and temperature recommended for *M. graminifolia.* — *A native of Guatemala.*

230. *Maxillaria racemosa.* Plant pseudo-bulbous; bulbs nearly two inches long, and flattish; leaves single, lanceolate, acute; the flowers are produced

on a raceme from eight to ten inches long, white, slightly spotted. This is a pretty species, and is worthy of cultivation, requiring the same treatment and temperature as the others. This genus has lately been divided, but yet consists of upwards of ninety species, differing in colour and form: the stronger growing sorts should be grown in pots, the size being regulated according to that of the plant, and a good drainage placed under them; this, I think, is the chief point in growing them at all, and especially when the mould is mixed with potsherds, as it then keeps it from getting too solid, and at the same time allows a free supply of water to the plant; for during the growing season they cannot have too much, if potted in the manner I have mentioned; and the best time for that operation is when they begin to make their young shoots; but a *gentle* watering should be given to them at the first, increasing in quantity as the plant becomes stronger. During their resting season, that is, as soon as they have done growing, very little water will be required for them, just so much that their bulbs are kept from shrivelling, and the temperature during this time should not exceed 55°, but during growth from 65° to 70°, with a damp atmosphere.

231. *Miltonia spectabilis.* This is a most beautiful species, and also of long duration; the plant is pseudo-bulbous, bulbs four inches long, of a yellowish green; leaves nearly seven inches long; flowers very large and solitary, produced from the base of the bulbs on a stem nine inches long; the sepals and petals white; labellum shaded with lilac and crimson. This species requires pot cultivation in a mixture of sphagnum and fibrous brown peat, with a few potsherds intermixed; the plant requires to be a little elevated above the rim, and during its growth liberally watered, with a temperature of 65° to70°.—*A native of Brazil.*

232. *Miltonia candida.* This is another handsome species, worthy the attention of all cultivators; the plant differs a little from the other in the formation of its bulbs as well as its flowers, which are produced on a spike containing from four to seven; the sepals and petals are a rich yellowish brown; labellum pure white, spotted with fine bright pink; this requires the same treatment and temperature as the other one.—*A native of Brazil.*

J. Henshall.

(*To be continued.*)

WINTER-FLOWERING PLANTS.

As we are desirous that our remarks should apply to the seasons, we beg to direct attention to a subject which should have due consideration during the ensuing month, as one from which as much pleasure to the proprietor and credit to the gardener are derived, as from any that occupy attention throughout the year; we allude to the provision of flowering plants for the embellishment of the conservatory through the winter.

There are several free-flowering and easily accommodated plants, that seem peculiarly suited to this object, but which perhaps from being common, are passed over in the hurry of other important operations which occur at this season, or are sometimes disregarded altogether. Now we certainly hold it, as the essential point of good management, to have a constant succession (we had almost said profusion) of flowers in this department, and are not satisfied that any man, having the necessary conveniences, should be designated a gardener, who cannot maintain this succession: still, to secure the desired display we must admit other than tender exotic plants, particularly for winter ornament; the chief aim at this season being *flowers*, those kinds may be allowed to contribute that at other periods would not be admissible, and the more hardy kinds which are easily produced in flower will be found the most useful.

A great deal of care and skill is bestowed on some of our hardy flowering shrubs when required for forcing for the conservatory or greenhouse, and with the happiest effects, for on forced or retarded flowers the winter decoration must depend, so few plants producing their flowers naturally at that time; and in furtherance of this desirable object, we will endeavour in the present paper to extend the list of plants suitable to the purpose by pointing out some that have not yet received the attention we think they deserve, and by mentioning others that with little extra trouble may have their blossoms retarded almost at the operator's will.

It is usual at this period of the year to prepare by potting, &c. roses, lilacs, rhododendrons, azaleas, kalmias, and deutzias, with occasionally one or two other favourite shrubs, for forcing purposes: these, by being placed into heat in succession, form the cultivator's chief resource through the early spring months, and amply repay the trouble they occasion. Now if we consider the very great interest with which these common plants are observed in their altered situations, that is, ornamenting the interior of a plant structure or drawingroom, we may be certain that every addition, if possessing only a share of their beauty, will be acceptable: and what an extensive and beautiful range of subjects are presented to the purpose among hardy herbaceous plants! " Flowers of every hue " and of various heights and character are to be found in the class, most of them equal or even superior to the plants usually employed, certainly second to none, and it is only necessary to select with judgment, to insure a most desirable increase of early and late blossoms.

There are a few hardy plants of this description, such as *Viola*, *Dianthus*, &c., employed for the purpose; and, judging from the success attending their adoption, we see no reason to fear a contrary result from extending the same attention to other members of the tribe.

What we imagine to be appropriate treatment would be to divide them into two classes — the naturally early and the naturally late flowering kinds. The latter, by retarding, may have their flowering prolonged until the earlier ones, by forcing, are made to produce theirs; thus those which are blooming at the present time, by removal to the conservatory before the autumnal frosts occur, would be enabled to continue blooming until mid-winter, or after, when they would be succeeded by the forced flowers of the early class. In most cases, however, the retarded plants will require to have been potted and prepared some time previous, as it is not reasonable to suppose a plant taken from the open border in full bloom, and having its roots cramped and broken by potting, will continue in the necessary vigour, so that these remarks, in so far as they relate to this class, must be taken in anticipation of another season, rather than as applying immediately to the present.

No obstacle of this sort, however, exists with respect to the selection of spring-flowering kinds, which, by gentle forcing, are to be brought into a flowering state by the end of December. These may be potted at once, and got into a proper state, to bear the application of heat at the required time.

With respect to this part of the question, it should be borne in mind that the degree of heat employed must be regulated with regard to the period at which the plants operated on unfold their flowers when in their usual situations. Thus those which bloom in February and March will require a much smaller proportion than those of April and May to have them in flower together; as, for instance, if *Arabis* or *Hepatica* were selected, a common frame, with a very slight hotbed, would be sufficient to force open their flowers any time in December or January, while to have *Œnothera* or *Delphinium* during the same months, a heat equal to that usual for forcing tulips would be necessary: still, this is easily arranged by reference to the times at which they flower naturally. As we intend to offer some remarks on the principles of flower-forcing next month, we need not enter on the subject just now, but defer it till that opportunity. There is yet another class of flowers which may be made to contribute a larger amount of beauty through the dull season: these are annuals. It is true they are not quite such strangers to the conservatory as those we have been speaking of: still they might be introduced more extensively with corresponding advantage; from among these the more robust kinds should be preferred, as being better calculated to withstand the vicissitudes of the winter than the tender and delicate sorts. A neat habit, united with large or gaily-coloured flowers, are the chief qualifications, without reference to rarity or costliness; for a yellow primrose will have as many admirers at Christmas as the most gorgeous productions of the East at another season. We cannot close this paper without strongly recommending a little favourite of ours. The *Lobelia gracilis* we have found to be the most useful plant we ever grew for winter ornament, continuing a profusion of its pleasing bright blue flowers for an amazing length of time. We have now a plant which has been constantly and completely clothed with blossom for fourteen months, and is still in perfect health, having stood through the whole of last winter in a pot in a greenhouse, and in May it was turned into the open border, where it remains a contradiction to the received opinion relative to annuals. Ed.

ON PHLOX VAN HOUTTII AND OTHERS.

This valuable addition to an already extensive and beautiful family may be truly termed the greatest ornament our flower-gardens have received for a very long time; its neat compact habit without paucity of foliage, added to its brilliant and abundant variegated inflorescence, render it perfectly unique. The whole genus is universally allowed to be among the most handsome of hardy herbaceous plants; but this one, in my opinion, is decidedly the gem of the collection. I have several plants of it flowering now most profusely, each head of bloom being from three to four inches in length, and half that in diameter: the flowers individually are about the size of a sixpence, of a deep rose colour approaching carmine; the divisions of the corolla are severally feathered in the centre with pure white: next season I trust to have a sufficient stock to fill an entire bed, which I flatter myself will be indeed a beautiful object, as it appears to be peculiarly adapted to this purpose. The plants attain a medium and convenient height, and continue to bloom throughout the autumn.

It has struck me that from this genus being so thoroughly useful for flower-gardening purposes, a brief notice of the more attractive species will perhaps afford information to some of your readers.

P. Van Houttii, already described, emanated from the nursery, in Ghent, of the gentleman whose name it bears; it is perfectly hardy, though the purity and brilliance of colouring is improved by a slight protection, such as a cold pit or frame will afford.

P. Princess Marie or *Marianne* is a variety resembling very nearly the above; there is a slight difference in the ground-colour of the flowers, and with me the plant is rather more tender. The history of this variety I am not acquainted with.

P. omniflora may be regarded as most decidedly the best of the old kinds; its large dense heads of pure white flowers are truly magnificent: it is an English hybrid, but as hardy as an oak. The stems attain a height of about three feet.

P. Ingramiana, another British hybrid, was raised, I believe, in the neighbourhood of Huntingdon. Its flowers are lilac, not so large as the foregoing, but very pretty; it is a taller-growing kind than either of the above, which renders it suitable for the centre of a bed, or for vacant spaces among shrubs.

P. odorata, a North American species, is equally desirable for its fine rosy-lilac flowers, and their very agreeable odour: it is an autumnal flowering kind, rising about three feet in height, and well suited to plant on mosses along with omniflora.

P. læta. — Also from North America, bearing very large flowers, but the white is rather deficient in purity; and, unfortunately, they are produced at the same time with those of omniflora, whose greater density affords an unfavourable comparison.

P. paniculata is an extremely pretty pink-flowering North American species: it will attain a height of five feet, and commences blooming about the middle of August.

P. Shepherdii, an hybrid, with dark purple flowers, is a very good variety for contrasting with the other paler-coloured kinds.

P. Carolina is, perhaps, the most common of them all, but is still valuable, from its extreme hardihood: it will grow on any soil, and under almost any circumstances: the flowers are pale purple; height four feet.

P. cordata rosea is an indispensable variety. Its pretty flesh-coloured flowers, by heightening the tints of the surrounding kinds, render a mass of them extremely imposing.

P. nivalis, white; *P. procumbens*, flesh; and *P. reptans*, bluish purple, are all trailing kinds, suitable for the margins of beds and borders, and have a pretty effect among rockwork. The list might be extended to a much greater length, but this probably will suffice for a beginner.

T. Sinclair.

LIST OF NEW PLANTS.

Cinchonaceæ. — *Pentandria Monogynia.*

Hindsia violacea. This plant differs from the better known *H. longiflora*, chiefly by having much larger, broader, and more downy leaves, the flowers much larger and more hairy, and by the calyx, of which one, two, or three divisions are much larger than the rest, and more or less dilated and leaf-like above the middle.

Both species vary in the size of the flowers, and in the shade of their colour. In the *H. longiflora* also, and perhaps in *H. violacea*, the stamens are entirely included in the tube of the corolla in some specimens, and in others the tips of the anthers protrude.

This *Hindsia violacea* is one of the finest things obtained from South Brazil. It has been imported by Messrs. Veitch and Son, of Exeter, and will doubtless prove a very easily cultivated greenhouse plant, and is certainly unsurpassed in beauty by blue flowering shrubs; the flowers are produced in loose terminal heads, each individual being from two to three inches in length, and the limb extending about one-half that distance in diameter, of a deep porcelain blue. — *Bot. Reg.*

Orchidaceæ § Vandeæ. — *Gynandria Monandria.*

Aerides virens. This is a beautiful addition to that set of Aerides of which *A. odoratum* was the first discovered. Like the flowers of that species, these are deliciously and very peculiarly sweet-scented, and not at all inferior in size. Each sepal and petal has a deep purple blotch at the end, while the remainder is a delicate soft French white. The lip is speckled with crimson, and bears in the middle an inflated, sanguine, serrated tongue.

The leaves are much alike in all these plants; but here they are of a peculiarly bright green, which circumstance has suggested the name. It was imported from Java in 1843, by Messrs. Loddiges of Hackney. — *Bot. Reg.*

Amaryllidaceæ. — *Hexandria Monogynia.*

Stenomesson Hartwegii. A pretty little bulbous plant found by Mr. Hartweg at the Haciendo del Ixo, on the ascent to Antisana, in the province of Quito, at the height of 11,800 feet above the sea. It has gay orange-coloured nodding flowers, growing in pairs. It should be grown in a mixture of peat and sandy loam in equal proportions, with the treatment usually applied to this class of plants; it will succeed in a warm greenhouse. — *Bot. Reg.*

CESTRACEÆ. — *Pentandria Monogynia.*

Habrothamnus elegans. The beauty of *Habrothamnus fasciculatus* is so striking, that attention is strongly drawn to the discovery of other species in Mexico, and the Belgians have already succeeded in adding that now represented, which, although not comparable with *H. fasciculatus*, is evidently a graceful and gay-looking plant; it has a terminal head of erica-like flowers of a bluish carmine, and the plant itself is evidently a soft-wooded species to be treated in the same manner as Pelargoniums. — *Bot. Reg.*

ORCHIDEÆ. — *Gynandria Monandria.*

Odontoglossum pulchellum. A most delicate and elegant plant, well deserving the name Mr. Bateman has appropriated to it. It is a native of Guatemala, introduced, we apprehend, through the medium of Mr. Skinner; and it flowered in the stove of the Royal Botanic Gardens of Kew in October, 1843. The plant is pseudo-bulbous; bulbs clustered, oblong, tapering upwards, bearing two elongated linear leaves; the flowers are borne in a loose spike, the stem rising from the base of the pseudo-bulb; every part of the flowers is white except the crest of the labellum and the anthers, which are yellow, the former, in addition, being spotted with bright red. — *Bot. Mag.*

LOBELIACEÆ. — *Pentandria Monogynia.*

Siphocampylus lantanifolius. A rather weak-growing, but erect shrub, with many rounded branches. The young ones herbaceous, having leaves with a distant resemblance to those of the *Lantana.* The striking peculiarity in this plant is in the inflorescence, which constitutes a many-flowered corymbose raceme. The colour of the flowers is a pale, yet bright crimson, the segments of the corolla being tipped with bright green. It was originally collected in Caracas by M. Vargas. — *Bot. Mag.*

ASCLEPIADEÆ. — *Pentandria Digynia.*

Asclepias vestita. A new and well-marked species, for a knowledge of which we are indebted to Mr. Veitch, of Exeter, who received seeds of it, we believe, from the southern states of North America, and reared it in the greenhouse, where it flowered in October, 1843. It is an herbaceous plant, bearing dense hemispherical umbels of curious green and purple flowers. — *Bot. Mag.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Dendrobium Dalhousieanum. This splendid species of Dendrobium was originally obtained by Mr. Gibson, Botanical Collector to His Grace the Duke of Devonshire, from the botanic gardens of Calcutta, and by him transmitted to Chatsworth. The Calcutta gardens were indebted for their plants to Lady Dalhousie; but it was unknown whence her Ladyship procured them. About two months ago a specimen imported by Messrs. Loddiges from the same gardens, flowered in the superb collection of those gentlemen. The plant is of a medium habit, producing its graceful bending racemes of flowers from the upper portion of the defoliated stems, formed the preceding year: the flowers themselves are large and specious; the sepal and petals are of a delicate pale nankin, shaded with salmon-colour; the lip is very handsome, shaped somewhat like a boat, with an obvious peculiarity in the raised parallel coloured lines on each side, pointed towards the middle, and detached for a short distance from the body of the lip at the innermost termination: it is of the same colour as the sepals and petals, having two large, intense, crimson velvety, eye-like spots on the upper portion.

In the Calcutta gardens it produces its flowers in the dry season, a circumstance meriting attention in its treatment in an artificial climate. — *Pax. Mag. Bot.*

LEGUMINOSÆ. — *Polygamia Monœcia.*

Inga pulcherrima. This species bears a striking similarity in its general aspect to *I. Kermesina;* it has, however, much smaller foliage; and the bright crimson drooping tassel-like blossoms, though scarcely equal in size, shine with a deeper and more lustrous hue. It is stated to be a native of Mexico, and introduced to this country in 1822; but though so old a plant, it is but seldom seen. — *Pax. Mag. Bot.*

PEDALIACÆ. — *Didynamia Angiospermia.*

Martynia lutea. This neatly-speckled flowering plant was first produced in England in the gardens of the Hon. and Rev. W. Herbert, Dean of Manchester, who, in the year 1824, received seeds from the Brazils, and raised several specimens from them, which flowered in August the following year. The flowers are funnel-shaped, produced in a dense head, of an orange-yellow spotted with blood colour inside. It is an annual, and on its first introduction was cultivated exclusively in the stove, but has since been found to flower well in an ordinary greenhouse: a rather poor earth will suit it better than one abounding in rich nutritious matter; as, the foliage being copious and large, and the stems strong and somewhat succulent, are in danger of acquiring too much luxuriance, and attaining a size disproportionate with the inflorescence. — *Pax. Mag. Bot.*

TO CORRESPONDENTS.

T. BARTY, ESQ., *Anchorfield.*—We do not exactly recognise the insects by your description: send a few by post, in a quill, and we shall be able to speak more positively. As a remedy for all these minute pests, let us advise you to have all your vacant ground thrown into narrow steep ridges before the first frosts occur; and, as soon after as it can be worked, ridged again cross-wise; repeat this in every thaw until the ground is wanted, and the result will well repay the trouble: we find it far preferable to any topical applications. Spirit of tar, or even tar-water, is very offensive to most insects: a dressing of soot is an excellent prevention of the onion-maggot, but it should be applied early in the season, at the time the fly is about to deposit its egg; your crop is too far advanced to admit of a cure. Guano in a solid form can only be applied with success in damp weather; but the drought could not have made any material difference in your case, as it was applied in a liquid state: it must then have been the guano in fault, for your proportion was a very good one for this manure, of average strength; but, as we have before remarked, it is never twice alike. If you have a good supply of stable manure, guano is unnecessary; let it be first well rotted, and we are satisfied no danger need be apprehended from a very liberal use of it. Lime would be beneficial to your land; turn it in when the ground is trenched.

H. H. D. — Now that the Carnation bloom is over, we beg to remind our correspondent of his promised notes, which we shall be happy to receive.

F. H. HARVEY. — Hyacinths for forcing should be potted directly they can be procured, in a mixture of loam, leaf-mould, and well-decomposed manure, adding a good quantity of sharp river-sand: it is not necessary to repot those which are intended to bloom in December; but those which flower a month later, when we expect to see them fine, will be much benefited by it; these should be placed at the first in 48-sized pots, and, as soon as the roots fill the pots, remove them to 32s.

X. — Your seedling Picotee is too small altogether.

Florista. — The late rains have so far injured the flowers sent, that we deem it unfair to give an opinion of them in their present state — send again.

A box of Petunia blooms have reached us, without name or address; of these, only No. 6. is worth keeping — but that is very good. We cannot describe it without having the name of the party who sent it.

CALENDAR FOR SEPTEMBER.

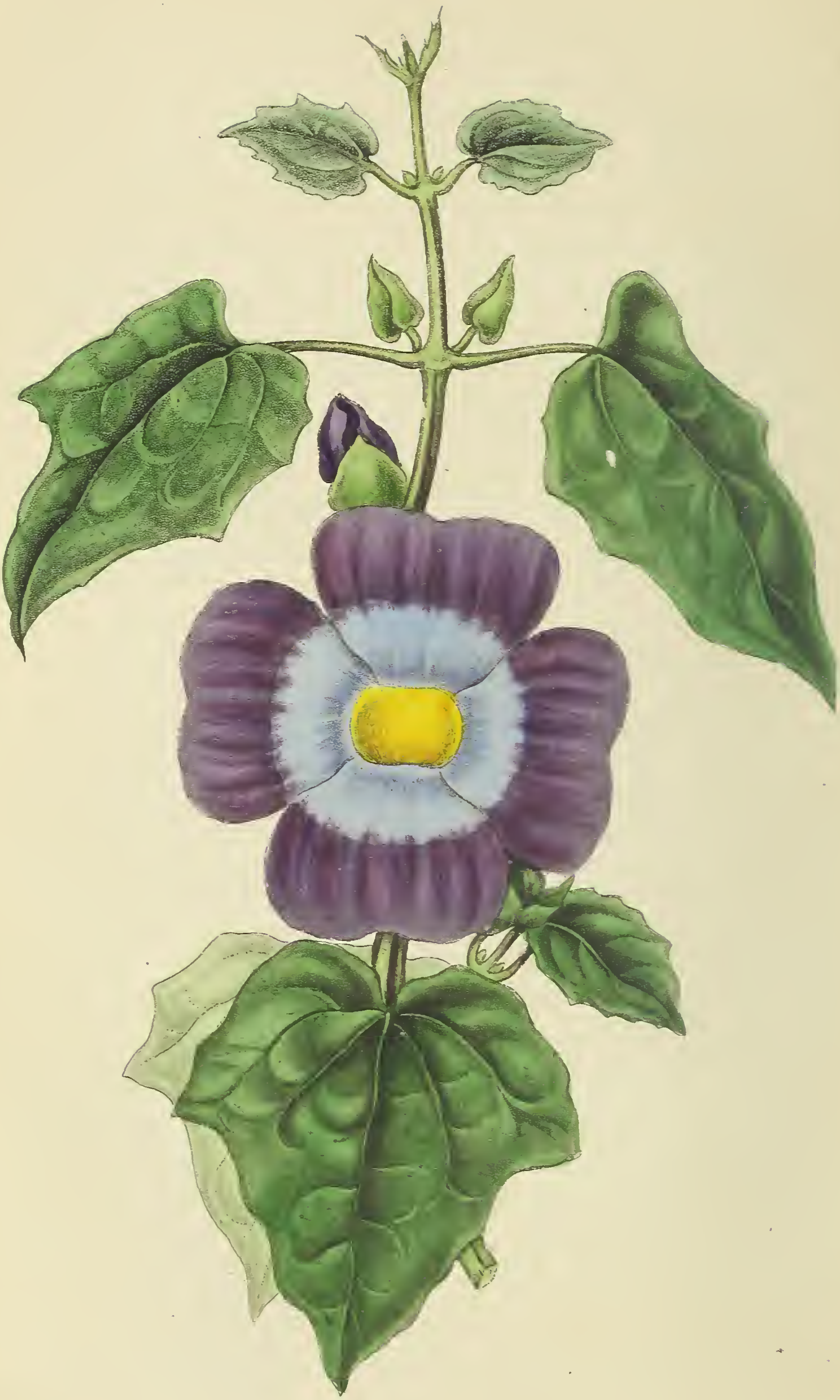
Plant Stove. The application of artificial heat, in sufficient quantity to render it appreciable, is still more important, if possible, *now*, than in the depth of winter. Hot autumnal days are generally succeeded by nights very much cooler than what would be proportionate to the heat of the day; and when the external temperature is thus disproportionately lowered, that which is internal is affected also, and considerable injury is sustained by such plants as have not matured their growth. Those which have naturally gone into a state of rest will be less sensible of this declension of heat. It is in many cases necessary to extend the growing season over a portion of the autumnal months, in order to secure an average increase of growth; and this treatment, which involves the attention we now refer to, to render it successful, is often preferable to the premature arrest of this growth, ere it becomes satisfactory and complete. In applying heat at this season, however, we must not forget for what it is applied: this is simply to mature late growth, and by no means to excite renewed development; it must, therefore, be accompanied by a small proportion of moisture, and be powerful in proportion as it is accompanied by light.

Greenhouse. The protection of greenhouse plants from heavy and continued rains, and from frost, and the preparation of them for their winter-quarters, will now require strict and punctual attention. The most delicate should be first secured, and then the others may follow, as opportunity or necessity may suggest. It is essential that when first removed under shelter, they should be allowed to remain as open as possible, or the confined dampness of the atmosphere will cause the succulent scarcely-ripened shoots to damp off. The amateur should impress on his mind that the least degree of protection which excludes frost is sufficient for the majority of these plants, and far preferable than a more powerful application, which frequently either kills (with kindness) or enervates for the season. In arranging the plants, try if a scientific disposition of them into "natural groups," having properties in common, will not be more pleasing to the eye than the stiff and formal arrangements generally adopted. Water sparingly; and remove with alacrity all vestiges of decay.

Flower-Garden. If there are any plants which it is desired to preserve, either for blooming or for propagation, they should be taken up before they are at all injured by frosts. Flower-beds which are still gay and blooming, may often be preserved beyond the ordinary limits of the season, as affected by locality, if a slight covering is cast over them at night, when frost is anticipated, and removed in the morning. Plants which become destroyed, or much disfigured by frost, should be removed as soon as possible, and their place supplied by small evergreens in pots (see p. 20.). Continue to use all possible means to secure a full and healthy supply of plants for next season; and remember that if plants are not provided now, the flower-garden will not be gay at an early period next summer. Prepare and renovate, where it can be done, the situations intended for the planting of bulbs for spring flowering. Sow a few hardy annuals early, in a sheltered position; if they survive the winter, they will add to the cheerfulness of spring. Perhaps at this season, when the recollection of the flowery past is vividly painted on the mind, and the dreary future flits before it, the characteristics of neatness and good order are more pleasing or satisfactory, as well as more fully appreciated than at any other period.

Layers of Picotees and Carnations that have taken root should be potted at once; they have then a better chance of becoming well established before the winter. Pinks should be planted into the blooming bed without delay. Tulip-growers are now busy arranging their roots previous to planting: this should have due attention, as on it depends much of the future beauty of the bed. Auriculas and Polyanthus require protection from heavy rains, more perhaps at this season than any other. Dahlias are now rewarding the cultivator for his past care, yet even now they require constant attention: sticking, tying, thinning, &c., must still be carried on; and last, though by no means least, those "insidious gentry" the earwigs, must have their share of attention.

T. M.



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THUNBERGIA CHRYSOPS

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THE

FLORIST'S JOURNAL.

October, 1844.

THUNBERGIA CHRYSOPS.

WITH AN ENGRAVING.

We are much gratified by the opportunity of presenting to our readers a figure of this beautiful plant, which, from the various statements and opinions in circulation respecting it, is now exciting so much attention and inquiry. It is seldom, indeed, such a combination of beauty is met with in any single individual of the vegetable kingdom, as is presented to the admiring eye of taste in this instance. A blue Thunbergia, it is true, is not so startling a novelty as was the blue Nasturtium; but those we already possess of the colour are extremely objectionable: the one on account of its rambling uncontrollable habit, and the great paucity of flowers by which it is distinguished; and the other for its debilitated sickly character, which renders it very difficult even to keep in existence, the production of a plant in any thing like a healthy condition or a free-flowering state being something near an impossibility, a feat that has never yet, we believe, been achieved.

In the plant before us, however, we have all these objections met in the most satisfactory manner; a habit of the most happy medium description, neat and compact, yet sufficiently robust to satisfy the most fastidious, uniting with a free developement of large and lovely flowers. We do not often indulge in such unqualified praise; but really it seems to us a most unenviable and difficult task to point out a blemish on this truly fine thing.

T. chrysops, although in strict terms a climbing plant, partakes also of the arborescent form to a much higher degree than is observable in any other member of the genus, so much so that, by some attention to the removal of the points of its leading shoots, it may be made to assume an erect and decidedly shrubby character; indeed it is not until the plant has become established, and attained a considerable stature, that, in the majority of instances, it displays a tendency to climb at all. This is an advantageous trait that cultivators must not overlook; for thus, it will be seen, it may be made to group with collections of plants of the ordinary description, or among climbers alone, and yet preserve a proper keeping with either: the importance of this, where the allotted space is limited, must be obvious.

In cultivation, the plant, although naturally an inhabitant of the torrid climate of Sierra Leone, does not seem to insist on the high temperature we might be induced to believe necessary from its native location, an ordinary stove appearing sufficient to produce it in great luxuriance; and we are inclined to believe a much lower temperature than even this will be found enough. *T. alata*, another Indian species, grows and flowers extremely well when exposed to the full influence of our summer weather; and we shall not be surprised, in a few seasons, to find them growing side by side in the same situation.

Seeds of this plant were received from Sierra Leone by the Right Hon. the Earl of Derby, from which plants were raised at Knowsley Hall, whence it was sent to the Royal Botanic Gardens at Kew; and through His Lordship's liberality, and that of the management at Kew, it has since been pretty widely distributed among the more eminent growers throughout the kingdom. We are indebted to the kindness of J. H. Schröder, Esq., of Brixton, for the opportunity of figuring it; in whose collection the plant from which our drawing was made flowered in September last. We find it grow rapidly and strong in a mixture of rough peat and leaf-mould; and, as the spread of roots is fully equal to the quick advance of stems and leaves, it seems to require a considerable space to admit of a free and full developement of these organs. It is readily increased by cuttings in the usual way; and, so far as we have opportunity for forming an opinion, it promises to bear seed abundantly. This feature will recommend it to the attention of those who can bestow the necessary care, and who delight in that pleasing and wonderful operation, hybridising. To our mind it presents a most promising chance of producing something thoroughly good and distinct. A blending of the purple of this with the orange, yellow, white, or scarlet of other species, must, we think, produce some startling results.

For a detailed account of the entire genus and its management, we must refer our readers to page 233. of our last Volume.

EDITOR.

AN ENQUIRY INTO THE PRINCIPLES OF ACCUMULATIVE POTTING.

(*Continued from page* 132.)

I AM aware of the difficulty attending the investigation of a subject of this kind, also that it may not meet the opinion of every person. My object, however, is simply to call into action our thinking faculties, that we may be led to enquire and reflect, and practise for ourselves. In my former paper I purposed showing the relation between distorted vegetation and the spongiole; in so doing I shall still confine my observations to the accumulative system. It must be understood there is some analogy between animal and vegetable existence, and that the effects, internal and external, are similar, though the one be stationary and the other capable of removing itself without the aid of man. Plants when once fixed to the soil, if suitable to their constituent parts, thrive, and the spongiole will go some distance in search of the food necessary for their sustenance. By way of illustration, the roots of large trees and vines are found to extend over a wide space of ground; this is a proof that the spongiole is the principal organ by which plants are supported, though many contend that the leaves are the most efficient channel through which they receive their nourishment; but, if this be so, how is it if a tree be planted and curtailed of its roots, that it will be some time before it regains its former vigour? If then the action between the leaves and the spongioles is so reciprocal, it is evident, from the laws of

Nature, that for the leaves to be in a healthy state, and the several organs of the plant properly developed, we must preserve the spongiole uninjured, by all possible means. It must, however, be borne in mind, that after a certain period has elapsed, the spongioles will form cuticles, at which time they cease to perform the necessary office. It is true many trees have been renovated after arriving at a certain age by pruning the roots, thus inciting them to make fresh spongioles closer to the stem, though I must practically affirm that root-pruning would not be beneficial in all cases. I have already shown, in my former paper, the derangement of the organs which takes place in the leaves of a plant after having been forced. This may be accounted for from the large quantity of fluid they are under the necessity of absorbing to keep pace with the temperature.

A proper knowledge of the geographical distribution of plants would enable us to arrive at an acquaintance with the temperature to which they are subjected in a natural state, and their seasons of rest and excitement; for there is a time when all plants require rest, or may be said to be in an inactive state. Due attention to these laws would twofold repay us; for nothing appears to me so important to the success of the accumulative system, more especially in reference to the supply of water. Another thing essential for the cultivators to be acquainted with is, the organisation of earths; for, be it recollected, before plants can receive their food it must first be decomposed. Thus, in watching the harmony of creation, we observe one plant decaying to supply nutriment to the other, from the gigantic oak down to the diminutive moss, all regulated by the wisdom of a benevolent Providence. Much evil arises from the sifting of soils; by this process the mould becomes compressed. By allowing the soil to partake of a rough texture, you admit the action of the atmosphere, which is favourable to the growth of plants, as may be seen by the spongiole clinging round the earth, where it comes in contact with the air. In removing the plant from a large to a small pot, the chief thing to be attended to is, to have your plant in as free a growing state as possible, due flexibility being the characteristic of the tissues; for it is not reasonable to suppose that a plant of stunted growth will thrive so well as one in full vigour. The ball of earth should be kept as nearly level with the surface of the pot as possible, as the soil will sink, and the roots descend. In draining the pots, great care is required to avoid the use of any crocks to which impure matter adheres, which, by increasing, will probably check the drainage, or produce noxious gases. After placing the first layer, I would recommend fibrous matter with some coarse soil over that, then adding the proper compost till you come to the centre, when slight drainage, in my opinion, should be adopted; this may be charcoal. Much has been said for and against this substance; but I will endeavour to point out such of its claims upon the horticulturist as have come under my notice. It has the property of decomposing impure matter, such as tainted meat and putrid water, may it not then have the power of keeping the soil free from the putrefying matters which often destroy the spongioles? Its porosity, as well as the property of absorbing water with rapidity, and, after imbibing it, allowing all other water to sink through it directly, are some of the favourable effects; besides it has the power of fixing the oxygen, combining it with the carbon, and thus affording food to plants, independent of other sources with which the various organs of the plant may come in contact. The quality of water is another essential, to the undue consideration of which failures may be often attributed, from the various substances with which it is sometimes charged. Pernicious effects often proceed from the matter it may collect in passing through pipes, or in tanks or other vessels; independently of this, hard water has a tendency to harden the spongiole, depriving it of its due flexibility; but for useful information on this subject, I would advise every horticulturist to possess himself of Booth's *Treatise on Water.* A due attention to proper ventilation is also essential for the well-doing of plants; the only rule to be guided by is, to make oneself acquainted with the nature of the influence of the various seasons on vegetation, in the several localities from which our plants are obtained.

I have now glanced over some of the leading features of the accumulative system. My ambition has not been to court approbation, but to excite enquiry into the truth of those matters on which our labours depend for success. The laws which govern vegetation have been neglected even by the majority of practitioners as useless theories, thus leading us to ascribe our failures to other causes than the right. I might have gone more minutely into the subject, but I consider I have said sufficient to show the importance of ascertaining the correctness of a principle before we venture upon its condemnation. J. F. M'Elroy.

Stockwell.

ON PLANTING THE RANUNCULUS.

Sir, — Many are the complaints of loss of Ranunculuses, from all quarters, this last season. Allow me to advise your readers who grow this lovely flower, to make up their *beds* now; for by doing so they will save many a root, as I am confident I have done. Dig out the beds intended for them, lay a layer of old cow-dung, about 8 inches below the surface, and 3 inches deep, having previously turned up the subsoil. Shake a little lime over the dung, to kill the worms, and fill up the bed with a mixture of loam, leaf-mould, and some *very old* cow-dung, almost reduced to mould itself. Let it remain undisturbed till planting-time (February). These are directions I received from an eminent Scotch grower, and they are good in practice; next month I may write more about this flower, choice of sorts, &c.

Your obedient servant,
Clericus.

[Our correspondent, in this short note, gives excellent advice, which we recommend to the attention of all who grow the Ranunculus. The object to be gained is a firm bottom, on which to plant the roots. So fully alive to the importance of this matter are the Dutch growers, that they beat the surface of the bed down firmly with wooden beaters previously to planting. We shall be glad of the promised notes.]

LIST OF ORCHIDEÆ.

(*Continued from page* 183.)

233. *Miltonia candida var. grandiflora.* This is a most beautiful variety, and ought to be in every collection. Its manner of growth is much similar to that of *M. candida*, as also its flowers, but they are larger, and the colours brighter. It requires a little elevation above the pot, and a good drainage, with a mixture of turfy peat, sphagnum, and a few small potsherds, mixed together. Water will be required but sparingly at the first, but increasing it as the plant becomes stronger. A temperature of 65° to 70°. — *Native of Brazil.*

234. *Miltonia candida var. flavescens.* This is another variety of *M. candida*, similar in growth and flowering, except that this is larger, and varying a little in the colour of the sepals and petals, which are of a deep yellow veined nearly all over with brown; the labellum is white, with a slight stain of purple in the throat. The same treatment and temperature as for the others will do for this. — *Native of Brazil.*

235. *Miltonia Clowesiana.* (Named in compliment to the Rev. J. Clowes, of Broughton Hall, near Manchester, a successful cultivator of these plants.) Plant pseudo-bulbous, and very similar to *M. candida*, except that the leaves of the former are rather more tapering, and a trifle greener; the sepals and petals of the flowers are yellow veined and barred with brown, and the base where it joins the column tinged with purple, the column has also a slight tinge of purple on each side towards the helmet. The structure of the labellum is altogether different, and its lines are peculiar; it has a deep stain of purple across the breast, gradually becoming lighter as it approaches the apex, which is considerably compressed in the middle by the folding of the edges, and at first is nearly white, but afterwards acquires towards the base a pleasing violet and pinkish tint. The same treatment and temperature as the others. — *Native of Brazil.* This plant is also known as *Brassia Clowesiana*, it being correctly referred to that genus.

236. *Miltonia Clowesiana var. nebulosa.* (From *nebulà*, a cloud.) This plant is also similar to the others in growth, except that the bulbs are rather flatter and slightly furrowed; the leaves scarcely so long, but the flowers are produced the same way. The sepals and petals are brownish yellow blotched (clouded) with dark brown, while the others are barred; the column has also a darker stain of purple towards the helmet. The labellum is fiddle-shaped, and the edges not compressed as in the other, which makes it quite distinct in form as well as colour, which at the base where it joins the column is white, having a broad band of dark purple across the breast, with the rest gradually shading to a white. The same temperature as well as treatment will do for it. This is quite new, having lately expanded its flowers in the rich collection of Messrs. Rollisson, Tooting. — *Native of Brazil.*

237. *Miltonia Russelliana.* Another beautiful species well deserving attention. In growth and flowering it is similar to *M. candida*, producing a spike of flowers from 12 in. to 16 in. long, and requiring the same treatment and temperature. — *Native of Brazil.*

238. *Miltonia cuneata.* This is another handsome pseudo-bulbous species, bearing a resemblance in growth to the rest. The same treatment and temperature as the others.

239. *Notylia punctata.* This species is of dwarf growth, its leaves being only from 3 in. to 6 in. long, of a bright green; the flowers are produced on a drooping raceme, of a pale green and white spotted with yellow. It requires placing on a log of wood covered with sphagnum, and a free supply of water while growing, with a temperature of 65° to 70°. — *Native of Trinidad.*

240. *Notylia Barkerii.* Another singular species, producing small yellow flowers, much like *N. incurva.* It also requires growing on a block, in the same manner as the other. — *Native of Mexico.*

241. *Notylia incurva.* This is also a small-growing species; the flowers are pale yellow. The same treatment and temperature will also do for this.— *Native of Trinidad.*

242. *Notylia tenuis.* Another of those curious little plants, the colours of which are not rich, but their fragrance very powerful. Treatment and temperature same as for the others. — *Native of Demerara.*

243. *Notylia maculata.* This is a very small pseudo-bulbous one, with a drooping raceme of very small pale greenish white flowers, slightly spotted. Requires the same treatment as the others. — *Native of Demerara.*

J. Henshall.

(*To be continued.*)

Horticultural Essays,

By the Members of the Regent's Park Gardeners' Society.

REMARKS ON THE CULTIVATION OF MIGNONETTE IN POTS.

By Mr. D. Doig.

Amongst all the odoriferous plants which are cultivated for decorating the conservatory and the drawingroom, there is none more universally admired or more easily cultivated than the mignonette; and yet it is seldom that we see it brought to that perfection of which it is capable, more especially during the winter and spring months.

Reseda odorata, or the Mignonette, is a native of Egypt: it is, under ordinary treatment, an annual plant, growing from 6 inches to a foot in height, and is hardy enough to stand this climate during the summer months; but it will not survive our ordinary winters, unless in some very sheltered situations. In order, therefore, to obtain a regular succession recourse must be had to pot or box culture, which will form the subject of the following remarks.

The beginning of February is early enough to make the first sowing for a spring supply. The soil which should be used should consist of one half loam, one fourth part dung, and one fourth part leaf-mould, well mixed together, and used in as rough a state as possible: the worms (if any should be in the soil) ought to be carefully picked out, or they will cause great injury to the plants, by stopping the drainage and disturbing the roots. The pots known as "forty-eights" will be large enough for this sowing; and these should be prepared by placing a crock over the hole in the bottom, and laying on this about 2 inches of the roughest of the soil, after which they should be filled with soil, pressed evenly and firmly, leaving the surface level within half an inch of the rim. On this the seed should be sown regularly, and, if its quality can be depended on, two dozen seeds will be enough for each pot; they will come up stronger than if sown thicker. Sift a little soil over the seeds, and give this a gentle pressure with the back of the hand, leaving the surface smooth and even, but not "glazed;" then give a gentle watering with tepid water, which will warm the soil and assist germination. Plunge the pots in a frame with a gentle bottom heat, and keep the lights shut till the plants begin to appear; afterwards admit a little air every day, if the state of the atmosphere will allow; but at all times avoid the admission of currents of cold air, as I am convinced that mignonette suffers severely from too rash an exposure to cold winds. When the plants become a little inured to exposure, remove the lights every fine day, which will prevent them from being drawn, and better enable them subsequently to support themselves. As soon as the seed-leaves are fully developed, thin out the plants, leaving at this time ten or twelve in each pot; this number should be retained, as they are liable to damp off if over-watered, and especially if the weather should happen to be dull. When they have made three or four leaves, thin them out to five plants, which number is sufficient for a 48-sized pot; at the same time stir the surface of the soil, which often becomes caked by continual watering, and thereby prevents the access of air to the roots. When the sun begins to act powerfully upon them, a thin shading for a few hours during the heat of the day will be of great service, by obstructing its rays, which give to the foliage a yellow and unsightly appearance. When they have grown three or four inches, they will require to be tied up, to prevent them from falling over the sides of the pot. In doing this, place five small stakes at equal distances close by the edge of the pot; then pass a strip of matting with a turn round each of the stakes, and fasten it: it is necessary to leave the stakes two or three inches higher than the plants, as I have found them sometimes to require a second tie. If the roots at that time have found their way through the bottom of the pot, they must be broken off, or the plants will receive a severe check when finally removed. In re-plunging them, give them sufficient room to prevent their being drawn. They will require little more attention, besides giving plenty of air, watering, and shading, till the middle of May, when they will be in good condition for removing to the conservatory.

The next sowing will require to be made about the beginning of April. The same compost as previously recommended should be used. For this sowing, however, I would prefer 32-sized pots, and would allow seven plants to remain in each: by thus having a greater body of soil, it will be found to retain moisture for a greater length of time, and the plants will not be so liable to receive any check by an accidental omission of watering. In other respects, the treatment already detailed should be followed. By the middle of May, if the frames should be wanted for other purposes, the pots may be plunged in some shady place out of doors. They will come into bloom about the beginning of July. Other successional sowings should be made about the beginning of June and the beginning of August. These may be plunged in a sheltered spot out of doors; and, with attention to watering, thinning, and tying up, as previously directed, they will come into bloom respectively about the middle of August and the end of October. The latter of these sowings must be removed to a frame as soon as danger from frosts may be apprehended.

The next sowing, which is to provide plants for blooming through the winter months, must be made about the middle of September. A little more attention is necessary at this season of the year, in order to prevent them from damping off, and also to secure as much of the sun's rays as possible. The soil I would recommend for this sowing consists of three parts of loam, one part of dung, and one part of leaf-mould. My reason for using more loam at this season is, because the compost then retains moisture longer than if a less proportion were employed; and thus the necessity of frequent applications of water is in great measure done away. In dull weather, mignonette is very impatient of water; and, when it is applied, it should be done in the morning, in order that the foliage may become dry before night. For this sowing I would use 48-sized pots, giving them a good drainage.

In preparing the frame for their reception, it should be raised behind, so as to give it a good inclination towards the south, for the purpose of gaining the full benefit of the sun, and also of preventing drips, which are very injurious, as the plants seldom recover from checks occasioned by their becoming very wet. The bottom of the frame should be covered with brick rubbish, and over this there should be a stratum of rough coal ashes, and again, on the top, 6 inches of finely sifted ashes. This must be arranged so that, when the pots are plunged, they may not be more than 9 inches from the glass. When the seeds are vegetated, give as much air as possible; and by attention the plants will begin to flower about the beginning of December, and keep in good condition for three months.

The final sowing should be made about the beginning of October; using the same sort of soil and pots, preparing the frame in the same manner as directed for the preceding, and taking great care in the watering and thinning. By the beginning of March the plants will commence flowering.

When frost sets in, cover the glass with mats and loose hay, taking them off on every favourable opportunity, as the young plants, when excluded too long a time from the light, will turn yellow, and damp off. I would also lay some long litter around the frame, to prevent the frost from penetrating through the sides.

It may be well to mention that, in thinning, the plants ought to be left as nearly of an equal size as possible in each pot, retaining the largest in some, and the smallest in others. This will give a longer succession of bloom: and, if at any time one sowing is likely to be over before the next is ready, pinch out the tops of a few of them when they are beginning to flower; this will cause them to break out again, and bloom three weeks or a month later than the others of the same sowing.

The cultivation of mignonette in boxes differs so little from that in pots, and boxes being seldom used except to stand in particular situations out of doors, it is unnecessary to say much on that head; but, when they are used, the same sort of soil that has been recommended for summer use will suit them very well. I would, however, prefer to grow it in pots till it begins to flower, and afterwards to plant it into the boxes, where it will continue to branch out and flower for a long time. When it has done blooming, these may (if wanted) be filled again in the same manner, and thus a constant succession will be kept up.

Cambridge-House Garden, Twickenham,
May 21. 1844.

ON THE CULTURE OF ACHIMENES COCCINEA.

By Mr. D. Watt.

Achimenes coccinea of Persoon (Trevirana coccinea *Willdenow*, and Cyrilla pulchella *L' Heritier*) is a very pretty little perennial plant, which, I believe, was introduced to our gardens in the year 1778; and, although it has been so long under cultivation, yet I fully believe it has rarely been grown to that perfection it will attain under careful management.

The first thing which ought to be considered in the cultivation of this plant is to procure strong tubers; and the best way to insure these is, to keep the plants which are intended to furnish them for the next year's growth, in as vigorous a condition as possible: this can be done by allowing them plenty of pot room, and an abundant supply of water, and by continually removing the flowers as they make their appearance. The plants will continue growing during the early part of the autumn, in a close frame, after which they must be removed from thence into a dry stove or warm greenhouse, and the supply of water reduced by degrees, so as to get the roots well ripened; after that is effected, they must be turned out of the pots, carefully removed from the soil, intermixed with dry sand, and put in brown paper bags: they can be kept in any dry situation, if protected from frost. The tubers produced by plants that are allowed to flower throughout the season, are not more than half the size of those produced by plants that are thus not allowed to flower at all.

When I commenced cultivating this plant, I had only three dozen of the small imbricated tubers, which I potted into two 48-sized pots, in a compost of two parts leaf-mould, one part turfy loam, and one part silver sand, with a little soot added to destroy the worms then in the soil: they were covered about half an inch with equal parts of leaf-mould and sand, and then placed in a propagating-frame, on a bottom heat of between 80° and 85°. When the plants had attained the height of 4 inches, which was about the third week in April, they were potted in patches of three or four plants into 60-sized pots, using the compost I have before recommended; and they were then placed on a bottom heat of between 85° and 90°. The atmosphere of the frame was not allowed to fall below 60° during the night, nor to rise above 90° during the day; the latter was secured by the admission of air, and temporary shading from the scorching rays of the mid-day sun. The plants were shifted as often as they required, until they were finally put, some into 32-sized, and some into 24-sized pots. The plants in these pots averaged 3½ feet in circumference, and 20 inches in height; those in the 32-sized pots were about the same size, but they required a greater supply of water, and also shed their flowers sooner than the others. Great caution is requisite in the watering of these plants, and on proper attention in this respect I think the success greatly depends. My practice was to look over the plants every afternoon, about an hour before the sun left the frame, and water those which required it, at the root; the plants were then sprinkled over with water from a very fine syringe, and the lights shut down quite close, in which state they remained until about ten o'clock, when a small quantity of air was given: this must be regulated according to the situation of the frame, the state of the bed, and the weather. I object to watering in the early part of the day; for I have observed that, after evening watering, moisture, having the appearance of very fine dew, is deposited on the leaves; and this, which is not observed when morning watering is practised, I am convinced, assists materially in feeding the plants. I have frequently observed that, when this dew was in any way washed off in the morning, the plants would look languid through the day, and were much easier injured by the sun.

Such is the treatment the plants under my charge were subjected to. The method may appear troublesome; but I am convinced, that if those who have a desire to see this very interesting little plant in perfection, were to adopt the method of cultivation that I have recommended, they would be satisfied with the result.

Buckingham Palace Garden,
August, 1844.

A FRAGMENT ON THE GRASSES ADAPTED FOR CULTIVATION AS FLOWERS.

By Mr. T. Moore.

The natural order *Gramineæ* is one of the most extensive and useful in the whole vegetable kingdom; and containing, as it does, some species of noble and majestic habit, and others possessed of no ordinary degree of grace, elegance, and real beauty, it has peculiar claims on our consideration. Grasses are too often passed over in consequence of the plebeian rank assigned to them in the vegetable world; and feelings of something like contempt may frequently be discerned when their intrinsic beauty is spoken of. Without doubt in this, as in all extensive natural families, there are some members which possess but little attraction, and others which are decidedly insignificant; but setting these aside in the present consideration, there are others which may be spoken of as yielding in no respect to any of our more universal favourites in true and simple elegance.

I shall take occasion to mention a few kinds which are quite worthy of being cultivated in flower-gardens, on account of these good qualities, which have been just referred to; and although the list must not be regarded as containing all, or even the most beautiful plants of this family, yet it may be sufficient to excite an interest in the subject, and to elicit some remarks from the members present. Of course the list might be immeasurably lengthened if any botanical consideration were to be superadded as a reason for their cultivation.

Annuals.

Lagurus ovatus	Flowers in	May
Polypogon monspeliensis	—	July
Gastridium lendigerum	—	—
Airopsis pulchella	—	June
Agrostis Spica-venti	—	—
Briza maxima	—	—
minor	—	July
Aira caryophyllea	—	June
Sorghum rubens	—	July

Not one of these require either peculiar care or soil in their cultivation; and all of them possess considerable beauty. *Sorghum* attains a considerable height and size, but gives a tropical *contour* to the assemblage of which it is made to form a part; the others are for the most part smaller in their growth. The most convenient way of growing then would be to sow the seeds in pots, and place them in a cold frame until they are vegetated, and then plant them out at convenience. They are not so tender as to require this nursing, but it will often be found to be the most convenient and manageable plan which can be adopted, The treatment given to hardy annuals would of course be applicable to these, if that were preferred.

Perennials.

Stipa pennata	Flowers in	July
Trisetum flavescens	—	June
Arundo Calamagrostis	—	July
Donax	—	—
Degraphis arundinacea	—	July
— var. picta	—	—
Deschampsia cæspitosa	—	June
Briza media	—	May

These require nothing beyond the ordinary treatment of herbaceous plants. The *Arundo* and *Degraphis,* with many others of similar habitude, are well adapted for such situations as the margins of lakes and water courses.

Perhaps a considerable portion of the beauty of these plants, if introduced to flower-garden scenery, would depend on their being constantly attended in the removal of the decaying portions as soon as they have passed their meridian; and also in carefully affording them support against rough winds and storms, sufficient only to prevent them from being beaten down and broken.

May 30. 1844.

LIST OF NEW PLANTS.

Orchideæ. — *Gynandria Monandria.*

Epidendrum radiatum. Allied to both *E. cochleatum* and *lancifolium.* This pretty species is distinctly known by the round form and crisp margin of its lip, which moreover is almost notched out in the middle, and very delicately streaked with purple. Its petals too are both shorter and broader than in either of those two species. Its habit is precisely theirs; and the three, considering their constant flowering and very neat appearance, deserve a place in all collections. Besides, this species smells deliciously of cinnamon. It is a native of Mexico. — *Bot. Reg.*

Lasiopetaleæ. — *Pentandria Monogynia.*

Corethrostylis bracteata. A greenhouse shrub from Swan River, producing long loose clusters of small pink and crimson flowers, the most remarkable part of which is the singular hairy style. It flowered last spring with Mr. Groom of the Clapham Nursery. The treatment should be assimilated with that of Cape heaths. — *Bot. Reg.*

Gesneraceæ. — *Didynamia Angiospermia.*

Gloxinia speciosa. Four varieties raised by Mr. Carton, gardener to the Duke of Northumberland at Syon, from *G. speciosa rubra* fertilised with the pollen of *Sinningia guttata.*

1. *Magnifica.* Deep pink, with a pure white throat.
2. *Insignis.* Tube deep pink, limb white, the upper segments being shaded and veined with the colour of the tube, bluish throat.
3. *Bicolor.* Brilliant bluish purple flower, the upper segments of the limb being edged with white, light throat.
4. *Cartoni.* Large pink flower, of great substance, the margin of the limb and throat white.

The flowers give little evidence of the male parent, although the branching habit which distinguishes Nos. 1. 2. and 4. are proofs of their alliance to Sinningia, particularly that of *magnifica*, which has very hairy leaves and stems, and an erect growth. — *Bot. Reg.*

Orchideæ. — *Gynandria Monandria.*

Lacæna bicolor. This fine plant was sent to the Horticultural Society, from Guatemala, by Mr. Hartweg; it produced its flowers in May, 1843, and ever since has been in such bad health that it is doubtful if it will survive. The flowers of this plant are formed in a pendulous raceme, as much as eighteen inches long; the lower part being clothed with distant short blunt scales, which extend into bracts about half the length of the pedicles. Each raceme consists of nine or ten flowers, of a dull greenish yellow, covered externally with short hairs; their petals have three streaks of violet; their lip is downy all over the upper surface, dark purple in the middle, with two or three spots of the same colour near the point. In the centre of the lower half is a large shaggy hump. Altogether the plant bears a near resemblance to the pendent-flowering species of Peristeria. — *Bot. Reg.*

PROTEACEÆ. — *Tetrandria Monogynia.*

Lomatia tinctoria. A native of Van Diemen's Land, and introduced thence by the late Mr. A. Cunningham to the Royal Gardens at Kew. The plant has variable pinnatifid or bipinnatifid leaves, and the upper part of the stem runs out into a long raceme of curious sulphur-coloured flowers tipped with green, especially in the bud. The specific name was given by M. Labillardière, in consequence of the rose-coloured dye produced by the mealy dust which clothes the seeds, when infused in water. — *Bot. Mag.*

BYTTNERIACEÆ. — *Pentandria Monogynia.*

Thomasia stipulacea. A small bushy shrub from New Holland, sent by Mr. Drummond to the Royal Botanic Gardens, Kew. The leaves are large, irregularly heart-shaped; and the flowers, which are borne on a short raceme, are large and pretty, of a pinkish purple shade. — *Bot. Mag.*

ORCHIDEÆ. — *Gynandria Monandria.*

Lepanthes sanguinea. A native of the high mountains of Jamaica, whence it was sent to Kew by Mr. Purdie. It is rather a botanical curiosity than a florist's plant, and forms a striking contrast with the majority of orchideous epiphytes, both plant and flowers being very minute, the former scarcely more than an inch high, growing in tufts among moss, on trunks of trees, in its native regions. The flowers, though small, are of a beautiful purplish blood colour. — *Bot. Mag.*

ACANTHACEÆ. — *Didynamia Angiospermia.*

Barleria flava, syn. Justicia flava, Dianthera flava. A very little known plant, as it would appear, and to which other synonymes might perhaps be added. It is a native of Arabia, and has been long cultivated in the stoves at the Botanic Gardens at Kew, where it flowers in the winter months, and makes a very pretty appearance with its bright yellow flowers among the large calyces and bracts. — *Bot. Mag.*

LEGUMINOSÆ. — *Decandria Monogynia.*

Gastrolobium spinosum. Till the developement of flowers in the spring of the present year afforded a chance of referring it with certainty to its proper station, this plant was cultivated and generally known as *Chorozema oppositifolia*, a mistake which most probably arose from the analogy displayed in its general features to those of the stronger-growing and larger-foliaged species of that genus. Seeds of it were imported from the Swan River colony, and distributed by Captain Mangles a few years since; and Mr. Young of the Epsom Nursery was fortunate enough to raise a number of specimens, which have been since multiplied and widely distributed. The plant is one which readily admits of being reduced to handsome proportions; has a neat habit and foliage; and produces copiously its terminal clusters of pea-shaped flowers, having an orange yellow vexillum and reddish purple wings. — *Pax. Mag. Bot.*

LABIATÆ. — *Decandria Monogynia.*

Salvia prunelloides. A small blue-flowering sage, of medium habit and foliage, which seems peculiarly well suited for flower-gardening purposes, being quite hardy, of quick growth, and an abundant bloomer, not rising more than a foot in height. We believe the merit of raising and flowering the first plants in this country is due to Mr. Moyes of Durdham Down Nursery, Bristol, who received roots from Mexico. Humboldt and Bonpland met with it on the volcanic mountain of Jorullo, where it grows in rocky situations; it has also been found in New Spain by Mocino and Sesse, and in various parts of Mexico by different individuals. — *Pax. Mag. Bot.*

TO CORRESPONDENTS.

F. H. Harvey. — The general management of *Gesnerias* may be resolved into a period of excitement and active growth and one of decided dormancy; the latter commences about the present time, the plant itself indicating the exact period by ceasing to produce flowers. As soon as this is observed water should be gradually withheld, so that in about a month the earth in which it has been growing may be quite dry, and the tuber at rest: in this state it may be preserved through the winter on a dry shelf in the greenhouse, or turned out of the mould and kept in any situation secure from frost and moisture. About the middle of February is the beginning of the active season: a hotbed or tan-pit, having a bottom heat of about 75°, is the most appropriate place in which to plunge them after being fresh potted; here they may continue until May or June, or even till they bloom, unless the space is required for other purposes, when they should be removed to the plant stove or a warm part of the greenhouse to produce their flowers. The soil they delight in is a mixture of fibrous peat or heath-soil and well-decayed leaf-mould, in equal quantities, or leaf-mould alone, kept porous by a sufficient proportion of sand and small stones. A free drainage and a liberal supply of water, both to the roots and foliage while growing, are essential to the production of fine plants. This treatment applies equally to them all. *G. tubiflora* seems to require stopping (pinching the ends of the shoots off) once or twice during the early stages of its growth, in order to induce a more compact form.—We must apologise for the omission last month, but cannot conceive how the mistake occurred.

Mr. Hamp's seedling *Petunia*, "Inimitable," presents a very desirable feature in the colours of this favourite flower: the ground-colour is deep flesh, margined broadly with brilliant crimson lake. This is permanent, being equally strong in new or old flowers. The eye is very large, richly pencilled with marone. The form of the petal detracts from the merit of the flower by being somewhat pointed.

A Subscriber. — The seeds of *Gesneria Suttonii* require to be sown in February. Drain well an ordinary seed-pan, and fill up two thirds of it with peat broken into small lumps, leaving the interstices open; on the top of this spread about half an inch of finely sifted peat and silver sand in equal quantities. Press the surface closely and evenly all over, and strew the seed on it, without covering; sprinkle a little water from the hairs of a brush over the whole, and place the pan in a stove or frame having an average temperature of 65°. It will require to be kept constantly moist by the means employed at the first watering.

T. N. — Cuttings of *Verbenas*, if well rooted, are more easily maintained in health through the winter than layers, the latter seldom having time to become established before the dull weather occurs.

T. C——n. — We really cannot promise to figure your seedling, although a fine thing; we are completely inundated with subjects already, which it will be impossible to publish in the required time, unless we increase the size of the work, and give two plates monthly.

A Tyro. — Yes. Grafting of all kinds may be done now with success equal to the spring months, though little or no difference will be observable in the growth of the scion through the next season.

Mr. Fowle's seedling *Antirrhinums* are a great acquisition. We are glad to remark the attention this beautiful and useful family is at last receiving. *Lutea* is a fine, large, brilliant yellow flower. *Maculata*, white ground, covered with minute crimson spots, fine lip; a very beautiful variety. *Fowlii*, white tube, upper and lower divisions of the limb reddish purple, large chrome yellow lip; this reminds us of the old bicolor, only it is much larger and of a different colour. *Striata magna*, a decided improvement on the old striata. *Brightii*, dark reddish crimson, seemingly derived from quadricolor; a bold well formed flower. Altogether a very beautiful and distinct lot.

Mr. J. Smith, Dalston. —Your seedling *Fuchsia* Magnet is a fine large flower, long bright vermilion red tube and sepals, with a large pale bluish purple corolla. No. $\frac{23}{43}$: very large thick deep vermilion tube and sepals, and red corolla; a desirable variety.

Mr. Miller's *Fuchsia* 240: tube and sepals bright carmine, very thick; the corolla of extra substance and size, crimson purple; a large fine flower. No. 217.: the sepals of this flower reflex so as to show the corolla to advantage, but they are not so stout or so broad as in the other, colour some shades paler; the petals are broad and expansive, but wanting substance, colour pale purple.

The seedling *Fuchsia* "Vuurberg," from Mr. Fowle, is an excellent variety of large size, and thoroughly devoid of coarseness; tube nearly white; pale rosy sepals slightly tipped with green, beautifully contrasted with the large stout brilliant flame-coloured corolla; it appears to be a free bloomer, and of excellent habit.

"Flamingo" seems to have been obtained from tricolor; it is much larger, with a deeper rose-coloured tube and sepals, and bright red corolla; free bloomer and good habit; a desirable kind.

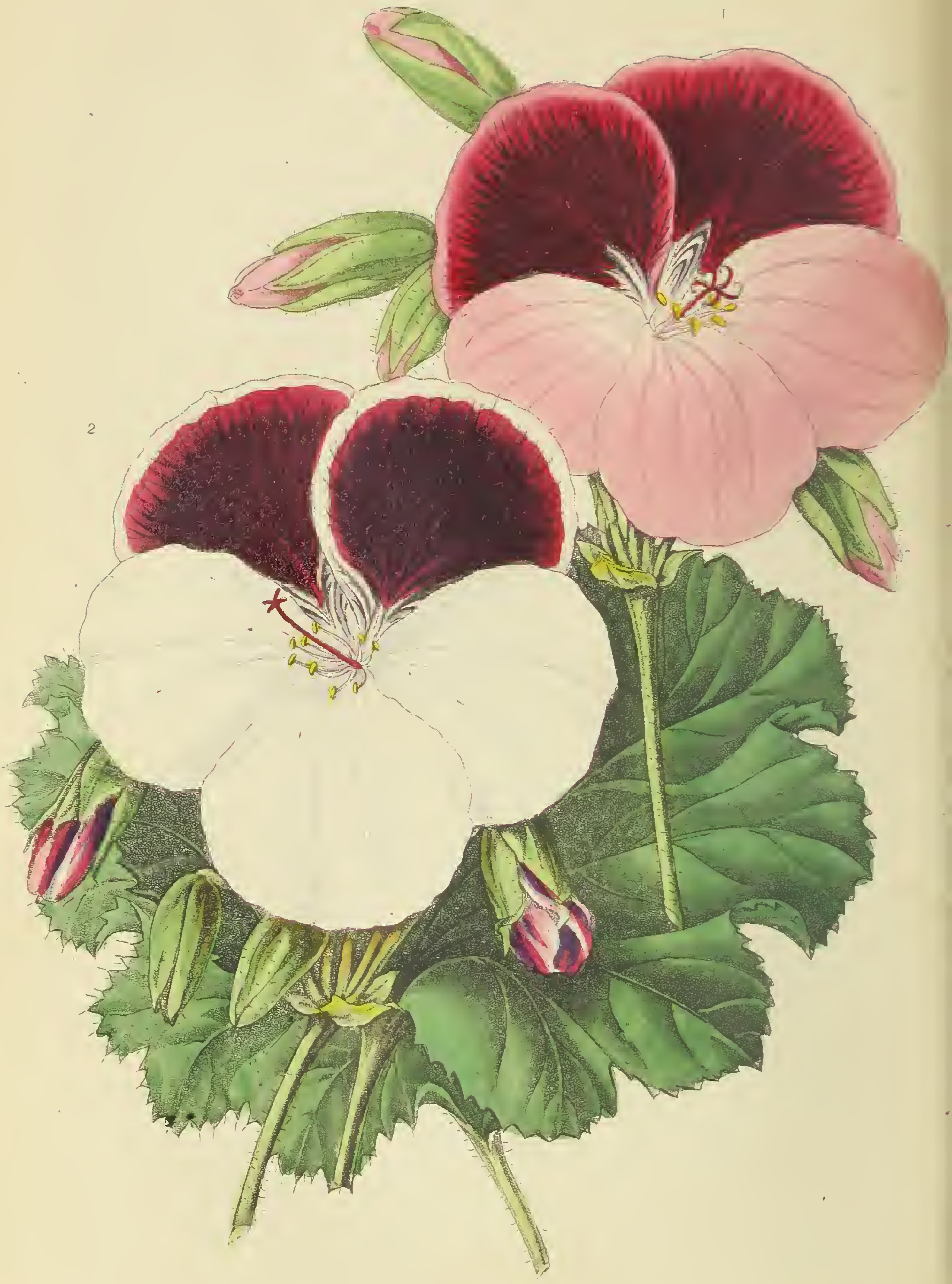
CALENDAR FOR OCTOBER.

Plant Stove. The remarks made last month will apply with equal force for the present month, and we therefore recommend their reperusal. The temperature should range from 65° to 70° by day, according as the weather is clear or dull; and by night it should not exceed 60°. Flowering shrubs and other plants, intended for forcing during the winter, should be brought to a state of perfect rest previously to their being excited into growth. The application of heat to such plants, for such purposes, should always be gradual and progressive.

Greenhouse. Here also we refer to last month's directions. The treatment required in this structure may be summed up briefly, thus:—Avoid a heated and damp atmosphere; admit light fully, and as much air as is consistent with the avoidance of an *extreme absence* of heat. The summer-bedding plants, preserved during winter on shelves in the greenhouse near the glass, and also in pits, should at this season be kept as perfectly *quiet* as possible.

Flower-Garden. There is much to be done here, if all is done that should be. There will be the removal of large plants required for spring propagation, early in the month, before injured by frost; and there will be the temporary protection of such plants as it is possible to preserve over the first autumnal frosts. Annuals and other plants past blooming will need to be removed, in order to the planting of bulbs for spring flowering. For our own parts we greatly prefer planting these bulbs in pots under partial protection, and filling the beds, too, with pots in which small shrubs have been planted: this relieves the flower-garden of much dreariness of aspect; and the bulbs are easily introduced immediately after the severe frosts of midwinter are past, from which time they may be protected without much inconvenience. Perennial hardy herbaceous plants generally may be transplanted now; and large patches should be severely reduced. Many of the bulbous and tuberous rooted plants may be planted out, if the weather is favourable, as soon as the ground is cleared and properly prepared. Dwarf blooming plants of Chrysanthemum may be obtained by taking cuttings from the ends of the shoots now showing bloom, and putting them singly into small pots, and striking them in a frame with a mild bottom heat. Choice herbaceous plants in pots, including auriculas, carnations, picotees, pansies, and alpine plants, should be prevented from receiving too much water, either naturally or artificially: this, more than any other thing, will tend to their safety through the winter. An early opportunity should be taken of deciding on the arrangement of the flowers intended to be planted for spring ornament, with reference to their effect when in blossom; and next summer will not be less readily welcomed, in consequence of floral arrangements for that season having been concerted now, whilst there is leisure to have them well matured.

T. M.



1 LYNES PRINCESS ALICE. 2 LYNES. WHITE PERFECTION.

THE

FLORIST'S JOURNAL.

NOVEMBER, 1844.

PELARGONIUMS.

LYNE'S PRINCESS ALICE AND LYNE'S WHITE PERFECTION.

The Pelargoniums represented in the accompanying plate are selected from a quantity of seedlings raised by P. E. Lyne, Esq., of Lipson, near Plymouth, in 1843. They have been exhibited several times during that and the present season, and have received very general admiration. The following descriptive account is sent us by Mr. W. Rendle, nurseryman, of Plymouth, who has the stock of these and other seedlings of Mr. Lyne's raising for sale.

Princess Alice. A well-formed flower of remarkably clear and bright colours; under petals, bright salmon pink; the upper petals have a large, rich, dark velvet blotch, gradually changing through bright crimson to a narrow margin of rosy vermilion, which [illegible] quite distinct. It was exhibited at the Chiswick Fête, June 17th, 1843, and was then awarded a seedling prize; and also at the June Meeting of the Floricultural Society of London, where it received another seedling prize. The habit of the plant is very dwarf, and it is a free trusser.

White Perfection. Under petals broad and well formed, of the purest white; rich plum-coloured spot, with a distinct marginal line of pure white; excellent habit, and a most abundant bloomer. This flower is indispensable in a good collection, it being by far the best white at present known. It received the first seedling prize at Torquay, June 1843, and the gold medal at Plymouth, May 30. 1844.

ROSES IN POTS.

When the cultivation of roses in pots was first proposed and prizes offered for them by the Horticultural Society of London, it created quite a "sensation" among the cultivators of this favourite flower: some decried the system altogether, while others contented themselves with a silent and intended significant shake of the head, enshrouding their opinions in the most delightful obscurity, that, like a riddle, they might be guessed at; yet a few there were who at once bestirred themselves, entered on the subject with an earnestness that would not admit of defeat, and produced the first season plants that were the wonder and admiration of all who saw them; still with this, as with all new systems, there were and are yet difficulties that stand in the way of the beginner, that only experience or an intimate knowledge of principles can obviate. To remove some of these obstacles we offered a prize for an article on the Management of Roses in Pots, which produced the very able treatise from the pen of our respected friend and correspondent Mr. T. Moore, which appeared in our last Volume.

Very lately another has been given to the public by Mr. W. Paul, nurseryman, of Cheshunt, Herts*, well known to the horticultural world as an eminent grower of roses. This little work may be called the Handbook of Pot Roses: it contains a great deal of matter relative to their management throughout the various phases of their progress from the first potting to the production of flowers; besides a selected and descriptive list of the most appropriate kinds. We extract the following remarks on the

"*Advantages of growing the tender Kinds in Pots.* There are many advantages when plants are grown in pots of which we are not able to avail ourselves when they are growing in the open ground. With regard to the tender varieties of roses these are very great, if we only take into consideration the facilities afforded of protecting them from heavy rains and frosts by means of pits; and it is not surprising to find they thrive so much better under glass than when exposed to all the changes and severities of the weather. Hitherto the Chinese and Tea-scented Roses have not been grown with much success in the immediate neighbourhood of London, nor in the North of England, when planted in the open ground. It is notorious that no collection however small can be complete without some portion of these roses; and it is the vexatious disappointment alone, attendant on their constant failure, that could have caused their growth in certain localities to have been given up. Doubtless, in some instances, an impure atmosphere may have caused the failing; but I humbly suggest whether, if carefully examined, the soil and situation would not often propound the difficulty. The ease then with which we can remedy these disadvantages, when the plants are grown in pots, leads me to propose their cultivation in this way to those with whom they have not hitherto succeeded: and there is good ground to believe they will succeed well in this way, and especially if grown under glass. Except for forcing, cold pits are perhaps preferable to a house, where they should be kept close to the glass, and plenty of air given. They should have the advantage of dews and soft showers — the lights in summer being merely used to protect them from cold nights and rough weather, and by help of mats or canvass from a hot sun.

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* Sherwood & Co., Paternoster Row.

" *Transplanting and Potting.* Early in autumn, immediately after rain, is the most favourable time to remove both worked plants and others from the ground, and such as have grown moderately with well-ripened wood should be chosen. The sized pots best suited are Nos. 32. 24. 16. and 12., according to the size of the plants; and they should be well drained. In potting, the soil should be pressed firmly in the pots, watering freely afterwards, through a fine rose, to settle the soil about their roots. The cultivation of the autumnals on their own roots may be commenced at any time, as they are usually kept growing in pots. If purchased in spring, in 60-sized pots, they may be immediately shifted into 48s, then plunged, and watered continually, as required.

" *Our aim being to get the plants strong, they should not be suffered to flower;* and we should endeavour through the growing season to bring them to form a few vigorous shoots in preference to a greater number of weak ones. To accomplish this it is advisable to rub out some of the buds when first pushed, keeping in view the handsome formation of the plant. The plants may be shifted on through the season, and in the following season we shall probably find them in 16 or 12-sized pots preparing for a vigorous growth and bloom.

" *Soil.* The soil in which I have them succeed well and have generally used, is two parts fresh turfy loam broken up, but not sifted; two parts manure (road gatherings laid by for a season, or the remains of a hotbed not too far decomposed); and one part burnt earth. This compost should be thrown up in a heap in autumn, and turned two or three times during winter, and a little newly slaked lime scattered throughout to destroy worms and grubs. This is the soil used for the mass; but for the delicate varieties (Chinese, &c.) it may be improved by the addition of one part leaf-mould or well pulverised manure.

" *Pruning.* About the middle of November pruning may be performed, in order to effect an early bloom. It is a difficult matter to lay down any precise rules with regard to pruning; upon the judicious adaptation of which depends not only the well-forming of the plant, but, in a great measure, the perfection of bloom also. In order to prune roses with certainty of success, we ought to know the character of each plant we are about to operate on, for roses of the same class ofttimes require very different pruning. The best criterion we can offer is, perhaps, habit of growth. Among the Hybrid Chinese, the two favourite old roses Brennus and Fulgens, both vigorous growers, frequently occasion great disappointment by not blooming. The failure will probably be found to arise from the method of pruning. These roses and others of like habit should be well thinned out, but the shoots which are left for flowering shortened but little. Others of the same class (Hybrid Chinese), that are weak growers, may be shortened in close, such as General Allard and Lady Stuart. There are also varieties of intermediate growth which may be pruned in proportion. The classes Gallica, Provence, and Moss may be pruned closer than the Hybrid Chinese. The autumnal roses there is but little fear of pruning out of bloom; early or late they are sure to flower. One point, too, should be in mind, that roses, when grown in pots, may be pruned closer than when grown in the open garden."

We may probably return to this book of Mr. Paul's.

EDITOR.

DESCRIPTIVE NOTES ON A FEW SELECT CARNATIONS AND PICOTEES.

Sir,—In accordance with your wishes, I send you a few notes on Carnations and Picotees, which may perhaps be useful to some of your readers, as this is the season for procuring plants to bloom next summer.

SCARLET BIZARRES.

The *furor* that was excited by *Twichett's Don John* a couple of years ago, has subsided, and notwithstanding that the raiser has obtained all the prizes in its class within this year at Cambridge, I consider it a very uncertain flower, having seen many blooms of it this year, and hardly one perfect one. Shading does not suit it, for then the petals do not expand sufficiently; and if in the sun, its very brilliant colour is apt to run. It is, however, a variety worth possessing, and may perhaps get more steady as it grows older.

Martin's Splendid, in colour a rich brownish scarlet, deserves the name; but its growth is very bad, not rising more than 18 inches in the flower stem, and the foliage scanty and dwarf. Hence perhaps it maintains its high price longer than other varieties.

Ely's Lord Pollington. Pod good, colour good also, and, like all of Ely's flowers, opens well and flat.

Smith's Duke of Wellington. A large bright-coloured flower, pod good, luxuriant in its growth, and a very desirable variety.

To these may be added, Ramsforth's Game Boy, and Fletcher's Duke of Devonshire.

CRIMSON BIZARRES.

Puxley's Prince Albert. An uncertain flower, rather faint in colour, but large, and a desirable variety, though eclipsed, I think, by that fine old variety,

Cartwright's Rainbow. A good flower, bright in colour, but rather hard to grow well.

Wood's William IV. I have had blooms on this root, which I have not seen equalled by any other. The guard petals are large, round, and well shaped; the stripes good, the white clean, and altogether it is with me a favourite flower.

Gregory's King Alfred, Holmes' Count Paulini, and Ely's Lord Milton, will complete a very good half dozen.

PURPLE FLAKES.

In this, as well as in the other classes of flakes, I cannot speak from actual examination, not growing many; but the following may be relied on.

Ely's Mango. This I grow; it is a fine, richly coloured, well-podded flower; but comes very early into bloom, and it will require some skill to keep it back for its fellows.

Leighton's Bellerophon. This I grow also; an old variety, but very good. It was in the winning stand at "The Coppice" this year.

Brabbin's Squire Meynell, ex. ex.

Mansley's Beauty of Woodhouse. A very fine flower; can hardly be beaten in its class.

Pollard's First Rate, is first-rate, and with *Sharp's Esther,* will complete a half dozen that cannot be beaten.

SCARLET FLAKES.

Six good ones. Chadwick's Brilliant, Bucknall's Ulysses, Addenbrook's Lydia (old but good), Wilson's William IV., Wigg's Earl of Leicester, and Toone's Ringleader.

ROSE FLAKES.

Ely's Lovely Anne, Ely's Lady Ely, Brook's Flora's Garland, Greasly's Village Maid, Tomlyne's Briseis, and Wilson's Harriet.

PICOTEES.

Here I can better give my opinion, as they are greater favourites with me than carnations; and any observations I may make on them may be relied on, as far as they go, for they are unprejudiced, here (Dublin) there is no contention about midland, northern, or southern flowers. We pick and cull from all; and while we think some of the Lancashire flowers absurdly thin, we do not deny but that many of the London flowers have too much stuff. Beautiful flowers, no doubt, come from both places, and I trust they will yet outdo all they have effected, great as that undoubtedly is, not that I agree with a taste too prevalent here of classing large-sized flowers first. Shape I consider a far greater point — large, well-formed, guard leaves, and the others imbricated regularly on them, with a good crown.

HEAVY-EDGED, RED.

Barraud's Cornelius. Undoubtedly a noble flower. The edging is very high-coloured, a brilliant red; the petals large and well shaped, the white pure, and the colour keeping well to the edge. The habit of the plant is good; but, to my taste, the flower is a *little* too thin, as it does not crown well: still it is a very fine flower, and indispensable to a grower of this lovely tribe.

Brook's Duchess of Cambridge. A pretty flower, novel in colour, a bright red, white good, opens well, and altogether a neat flower.

Gidden's Sir R. Peel. A very striking flower, the colour an intense red, almost black. The habit of the plant is not good, nor do I think it a first rate flower, though worth growing for contrast's sake.

Brinklow's Masterpiece. Mr. Dickson, of Brixton, the eminent grower of carnations and picotees (to whom I would recommend all persons desirous of being well treated, and liberally and fairly dealt with, as they are sure of having fine, strong, healthy plants true to name, and every advantage given them), says in this year's catalogue, as published in the *Gardener's Gazette*, that this variety is the same as Gidden's Teazer. I cannot think he is right. Teazer has always been here a difficult plant to grow, whereas Masterpiece is a very free grower. The colour of the latter, too, is higher, and the flower fuller. I may be wrong, but this is my view of the matter.

Sharpe's Duke of Wellington, were it not for its pudding-shaped pod, which makes it very liable to burst, this would be the best heavy red out, as it is, if caught, a very pretty flower, round in its shape, good in its colour, and deserving a place in any collection.

Mitchell's *alias* Mansley's *Nulli secundus*, a northern flower, consequently thin, but deserving of its name, possessing as it does, all that constitutes a first-rate show flower; white good, edging heavy and well defined, and the shape excellent. A few more petals would be decidedly an advantage and improvement, but altogether it is really *Nulli secundus.*

Sharpe's Invincible. Another ex. ex. flower, with more stuff than the last-named. Though perhaps not quite equalling it in other respects, still a desirable variety.

PURPLE-EDGED, LIGHT.

Brinklow's Purple Perfection. A first-rate flower. Mr. Dickson says, the best in its class, and he is no mean authority. The pod is rather short, but the flower altogether is a first-rater.

Brinklow's Lady Chesterfield. A very pretty flower; the edging very light and delicate, the white pure, and shape good. Its habit is rather delicate, but a most desirable variety in other respects.

Gidden's Vespasian. Another most excellent flower, deserving of a place in the smallest collection, possessing nearly every property of a first-rate flower.

John's Prince Albert. Decidedly, to my taste, the best in its class I have yet seen. The edging is not very light, the shape is good, the white beautifully pure — habit good, and altogether a superb flower.

Wilson's Pluperfect. An old flower, but a good one; the edging light and delicate, white good, rather difficult to increase, as its habit is not robust.

Wood's Lord Hinchinbrook. A good variety, well worth growing, pod good, white pure, shape ex.

ROSE-EDGED, HEAVY.

Green's Queen Victoria. This, and the two varieties next named, are most beautiful flowers possessing most of the qualities desired to constitute a first-rate flower. They are sorts that, no one who grows this (to my mind the most beautiful of all the classes of picotees) class, can possibly do without. The one first named is, however, decidedly the best of the lot, and nothing in the whole range of picotees can exceed a well-bloomed, clean-grown flower of Green's Queen Victoria.

Kirtland's Squire Annesley. Another most beautiful flower; its growth is its only fault, and that arising from its great luxuriance.

Lovegrove's Seedling, No. 5. Another fine flower, apt to burst its pod; but if this is watched, will well repay any care bestowed on it.

Twitchett's Fair Rosamond. A fine flower, wants a few more small petals to make a better crown; but, with all this, it is a sweet variety.

Wilson's Miss Fanny Irby. A pretty scarlet-edged flower, raised by the Hon. and Rev. Robert Wilson, raiser of Harriet, Pluperfect, &c.

Sykes' Eliza. A fine flower, old, but possessed of qualities deserving of its being continued as a favourite. Well and judiciously opened, it is equal to any of the reds in cultivation, being a large, full, and well-shaped flower.

Wildman's Isabella. A very splendid flower, the colour a bright cherry-red, the white most pure, the petals large and well shaped, not too full, opens well, and is most distinct. A variety that ought to be grown in every collection.

Orson's Adelaide and *Jessop's Sir William Middleton*, I do not know, though they have been in the winning stands about London this year; so suppose they must be good.

LIGHT-EDGED, RED.

Brinklow's Duchess. A tolerably good flower, but with a disposition to bar, and I hope the day is not far off when we shall get flowers that keep their colour well to the edge. As flowers go now, this is an acquisition to any collection.

Burrough's Joan of Arc. A large, full, good-looking flower, not exactly a first rate show flower, the edges not being quite even, still a variety that must please.

Burrough's Mrs. Bevan. A first rate show flower.

Kirtland's Duke of Wellington. Pod good, white clean, and the colour well confined to the edge; a first rate show flower, and, like most of this raiser's, has plenty of stuff.

Sharpe's Hector. Another good flower; the white is waxy, edging good, and the habit of the plant most luxuriant. Should be grown by every one who has even only a small collection.

Wood's Queen Victoria. An old variety; but, in my opinion, very superior to many now in cultivation. It possesses many of the properties of a first-rate flower, and I was glad to see it taking its place in the winning stands at the great Coppice show this year.

HEAVY-EDGED, PURPLE.

Crask's Queen Victoria. I put this first in this class; for, though rather thin, there are few, if any, that come up to it. The white is pure as snow, the purple good, and belts the edges well, not running down into the petals at all. Being a thinnish flower, it opens well too. The petals are large and well shaped, and in many points it cannot be excelled.

Dickson's Trip to Cambridge. A very fine variety; would be better if the guard leaves were larger; as it is, however, it is a very fine flower. There are other flowers sold under the name, so I would advise amateurs to go to head quarters for it — Dickson, Acre Lane, Brixton.

Gidden's Miss Hennell. A very tall young lady she must be, for the plant throws up a flower stem nearly 4 feet high, which is decidedly a disadvantage. The foliage is not pleasing, the flower is, however, a good one, not equal to the two already named, but still a good variety.

Kirtland's Princess Augusta. A flower in its growth the very opposite of the preceding, being more like a pink, so short and small is it. It is however a variety deserving attention.

LIGHT-EDGED ROSE.

Barnard's Mrs. Barnard. The finest light-edged rose in cultivation, the merits of this flower and its relative value to two other fine varieties *Dickson's Bride,* and *Lady Alice Peel,* are so well described in your August number that I will not record my own, as I believe those of your correspondent were true; there are some new flowers in this class, but I must confess to not having seen them, so my observations would be of no service.

Waine's Queen Victoria, a pretty flower, but has a pudding-shaped pod that prevents its opening well, but of those that I have seen, it is not the worst.

With these observations I now conclude; my time is so much occupied in my professional pursuits, that I have been unable to forward this before, and even now it goes forth in a crude and hasty form, wishing your excellent little periodical every success.

I am, Sir, your obedient Servant,

H. H. D.

Bray, Ireland, 1844.

ON THE RANUNCULUS.

Sir, — Being an ardent admirer, but rather unsuccessful cultivator of that lovely flower the Ranunculus, allow me to tender my best thanks to Clericus for his hint respecting the preparation of beds for them in the last Number of the Journal. I have at once acted on the advice, and my beds are now ready.

Here, however, I must beg to inquire, what is the difference supposed to exist in the employment of thoroughly decomposed or more recent manure? this inquiry is made, not in a spirit of controversy, but from a desire (like many others of your readers doubtless) to know which is best: Tyso and Lightbody both eminent growers, recommend the manure to be well rotted, while at Lockhart's, a grower of equal extent and standing, I have seen it applied in quite a new state, both cowdung and the ordinary stable litter. The difference may not appear of much moment to an experienced cultivator, who is aware of the probable effects of either form, and is consequently able to encourage or counteract as the case may require, but to a tyro it is at the least somewhat puzzling. I imagine a loss of the nutritive properties of the manure must occur while arriving at a decomposed state, before it is applied, which would be imparted to the soil if used fresh; however I am not writing to express my own opinion, but to solicit that of others.

T-—

LIST OF ORCHIDEÆ.

(*Continued from page* 200.)

244. *Odontoglossum constrictum.* Plant pseudo-bulbous; bulbs 3 in. long, flattish, and of a shining pale green; leaves in pairs, 18 in. long and 1 in. broad; the flowers are produced on an upright spike. The plant requires pot cultivation in a mixture of turfy peat sphagnum and small potsherds, with a liberal watering during its growth. The temperature at that time should range from 60° to 70° or 75°; when at rest from 50° to 60°. — *Native of Guatemala.*

245. *Odontoglossum membranaceum.* Plant pseudo-bulbous; bulbs 2 in. long, tapering to the summit; its leaves are produced singly, 4 in. long, of a lanceolate acute form. The flowers are produced on a short slender spike. It may either be grown in pots, or on small billets of wood covered with sphagnum; if on the latter, a liberal supply of water will be required while growing, with the same temperature as the other. — *Native of Guatemala.*

246. *Odontoglossum Lindleyanum.* Plant pseudo-bulbous; bulbs 4 in. long, rather flat, and grooved a little; leaves in pairs, 1 ft. long and better than 1 in. broad. This plant, both in habit and manner of flowering, approaches closely to O. constrictum; it also requires the same treatment and temperature.—*I believe a Native of Mexico.*

247. *Odontoglossum maculatum.* Plant pseudo-bulbous; bulbs 3 in. long, and smooth; its leaves are produced singly, 9 in. long and 2 in. broad, of a pale green; the ribs of the leaf are longitudinal, and of a darker green. The flower spike is near a foot in length. It succeeds with the same treatment and temperature as recommended for the others.—*Native of Mexico.*

248. *Odontoglossum pulchellum.* Plant pseudo-bulbous; bulbs 2 in. long and 1 in. broad, tapering a little to the summit; leaves in pairs, 1 foot long and half an inch broad. The flowers are white, with a blotch of yellow in the throat of the labellum. They are produced on a spike about 1 ft. long. It requires the same temperature as the others.—*Native of Guatemala.*

249. *Odontoglossum citrosmum.* Plant pseudo-bulbous; bulbs 3 in. long and 2 in. broad, of a shining green; leaves dark green. The flowers are produced on a spike from 12 in. to 18 in. long, of a snow white, and pale rose colour, exhaling a delicate smell of lemons. The same treatment and temperature as the others.—*Native of Mexico.*

250. *Odontoglossum grande.* Plant pseudo-bulbous; bulbs 3 in. long and rather more than 2 in. broad; leaves in pairs, 8 in. long and about 2 in. broad, somewhat undulated; the flowers are produced on a spike, 18 in. to 20 in. in length; sepals 3 in. long, the ground colour pale yellowish green barred with brown; petals same length as the sepals, brown half the length from the base, where it joins the column, and the remaining part fine yellow; column deep yellow; labellum at the breast projecting outwards in the form of a tooth (from which circumstance the generic name is derived, tooth tongue), of a deep yellow with a few small blotches of brown, the remaining part of the labellum white, with a few blotches of pale brown. This also requires the same treatment and temperature.—*Native of Guatemala.*

251. *Odontoglossum Insleayanum.* The general aspect of this plant is very similar to *O. grande*, and it may also be treated in the same manner.—*Native of Oaxaca.*

252. *Odontoglossum Rossii.* This is of a dwarf habit, its pseudo-bulbs being only 1 in. long and the same broad, of a dark green; the leaves are solitary, 3 in. long and 1 in. broad. Its habit of flowering is the same as that of *O. membranaceum.* It should be grown on small billets of wood, covered with sphagnum, and receive a liberal supply of water while growing. Temperature the same as for the others.—*Native of Guatemala.*

253. *Odontoglossum læve.* Plant pseudo-bulbous; bulbs 5 in. long and 2 in. broad; leaves in pairs, 18 in. long and a little above 1 in. broad; the flowers are produced on a spike 2 ft. long; the sepals and petals are an inch in length and extremely narrow, the ground colour pale green banded across with brown; the column is pinkish white, and the labellum narrow, though upwards of an inch long, with a deep stain of purple at the base, where it joins the column, gradually diminishing to a pure white at the apex. It requires the treatment and temperature recommended for *O. constrictum.*—*Native of Guatemala.*

254. *Oncidium Suttonii.* Plant pseudo-bulbous; bulbs 2 in. long and rather more than an inch broad, tapering a little to the summit; leaves in twos and threes, but mostly the former, 1 ft. long and 1 in. broad; the

flowers are produced on a slender spike, 2 ft. long; sepals and petals brown, striped with yellow at the apex; column yellow; labellum yellow, blotched with brown in the breast, the crested part of the latter being white. It requires pot cultivation, in a mixture of equal parts of turfy peat and sphagnum, with a few small potsherds, and a moderate supply of water while growing, in a temperature of 60° to 70°; this should be reduced when at rest to 50° or 60°. — *Native of Guatemala.*

J. Henshall.

(*To be continued.*)

THE WARDIAN CASE.

We are asked by a correspondent (Mr. C. Runcy, of Aberdeen) to describe this useful adjunct to the management of window-plants, and we comply with readiness, from a desire to extend the pleasure derivable from the culture of these objects of nature's especial bounty, in districts that preclude the possibility of enjoying that most delightful of all scenes—a good garden.

In crowded cities and large towns, flowers are, if possible, more highly esteemed than in suburban or country places, and any thing which promises to render their preservation easy or attainable in such naturally adverse situations, is certainly deserving the most favourable attention.

As a first step towards so desirable an end, the Wardian Case must be viewed, as a great and decided acquisition, facilitating as it does their management by protecting the plants from the hitherto unconquerable obstacles presented in the accumulation of dust, draughts, and the effects of impure air; but it is only as a preservative of this extent that it can be regarded; we mention this because we are aware of instances in which disappointment has ensued, from expectations being formed that, through its means, plants of many and various genera might be reared together, and brought to maturity; a very little reflection however would have prevented this.

The first and most important point in the management of plants under these circumstances, is to form an appropriate selection; the description is of little moment, and must depend on the taste of the owner, but it is absolutely necessary to a successful result, that all the plants employed, possess a kindred character, they should collectively grow, produce their blossoms, and become dormant, at the same seasons. They may be composed of Cacti, of Ericaceous plants, of Ferns, or of any other natural family, and while each is kept separate, either will succeed, but when a heterogeneous jumble of the whole is collected, placed together in a small box, and of course subject to the same influences, it is unreasonable to expect aught else than disappointment.

One of the most appropriate and promising groups for the purpose that we are acquainted with is *Gesneraceæ*, these we strongly recommend. A case filled with gesnerias, gloxinias, achimenes, and other members of the family, would certainly present a most charming appearance, their several shades of blue, scarlet,white, and purple, contrasting together, and relieved by the rich velvety foliage, cannot fail to please, and for the guidance of amateurs we subjoin a list of such as we deem most suitable.

Where only a small case, and a constantly green aspect is required, ferns or the globular cacti should be selected, these occasion less trouble than any others, but they present less change, and but few colours.

It must be borne in mind that whatever description of plants are chosen, the treatment is to be assimilated as nearly as possible to their ordinary culture when grown in the usual plant structures, except that air need be admitted only when necessary to dry the atmosphere or reduce the temperature, as for the preservation of flowers, or for resting the plants, at all other times the proper temperature must be maintained by keeping the case closely shut, and if that is not sufficient, by the application of heat externally, either by means of a fire in the room or by exposure to the sun's rays.

An occasional supply of water is at times requisite though not frequently, as from the construction of the case, and its being usually shut up, but little moisture can escape, that which condenses on the glass returning again to the soil.

The size and form of the case must be determined by the convenience and taste of the possessor, the bottom should be formed of a trough or box, at least eight inches deep, to contain the soil, and we have seen some, having in addition a metal tray, to slide under the bed of earth, for the purpose of supplying bottom heat, by filling the tray with hot water; a door at each end, or one in the middle is necessary for the convenience of tending the plants, and a circular roof is greatly preferable to a plain one, not only for appearance sake, but because it conducts the moisture as soon as condensed, down the sides, instead of allowing it to fall among the plants, thus preventing the "drip" that is constantly occurring from a roof of straight lines; the frame work should be as light as is consistent with a proper regard to strength, and the panes of glass as large as possible.

The following are selected gesneraceous plants sufficient for a Wardian case six feet long, three feet six inches wide, and three feet high.

		ft.	in.
Gesneria Suttonii,	Scarlet,	2	0 high.
splendens,	ditto,	2	6
tubiflora,	White,	3	0
faucialis,	Scarlet,	2	6
Gloxinia speciosa,	Blue,	0	8
rubra,	Rosy crimson,	0	8
Cartonii,	Pink,	0	8
candida,	White,	0	6
violacea,	Violet,	0	8
speciosa alba,	Blue and white,	0	6
Achimenes longiflora,	Blue,	1	6
grandiflora,	Rosy purple,	2	0
picta,	Scarlet spotted,	2	0
rosea,	Rose colour,	1	0
Sinningia guttata,	Cream spotted,	1	0
Drymonia punctata,	White ditto,	creeper.	

Two or three neatly growing climbers, such as Tropæolum Jarrattii or Convolvulus pentanthus may be introduced to fill the upper part, and add variety to the whole.

EDITOR.

CULTURE OF THE ORANGE.

THE *Citrus Aurantium*, or common Orange, once the most fashionable and prevailing ornament of the greenhouse and conservatory, is still, though so much neglected, well deserving the little skill and attention necessary to its growth. Its beauties are known to every one at all conversant with horticulture, and therefore they require no encomium, though were it only for the pleasing associations so intimately connected with the plant, room should be found for it in every suitable plant structure of the least pretensions. "It is," as Loudon has observed, "one of the most striking of fruit-bearing trees, and must have attracted the notice of aboriginal man long before other fruits of less brilliancy, though of more nutriment or flavour."

The first requisite to the culture of this noble plant is a strong rich soil, composed chiefly of friable loam from a common or pasture, with the addition of about a third of old hotbed manure and a rather less quantity of peat or clean sand, these thoroughly incorporated, afford a highly nutritious medium for the roots. The only other point of consequence in their management is to provide an agreeable temperature and some slight shade while the new wood is being formed: the usual greenhouse treatment will preserve them in excellent health at all other times, but *then* they require, and must have, if luxuriant plants are desired, a close humid atmosphere, with a temperature of about 60°, and protection from the sun's rays until the new growth is completed.

Very little pruning is best for them, only just to keep them in order and proper form, except in the case of old trees that have become naked and unsightly; these are much benefited by severely cutting back, being at the same time repotted and placed in heat, to induce them the more readily to form a new and luxuriant growth.

Orange trees are frequently infested with two troublesome insects, the scale and mealy bug. The most effectual remedy for them is, spunging all over the plant with warm soap suds, and afterwards cleaning with the syringe, attention to the above and the usual routine, watering, &c. with an occasional supply of liquid manure, will insure handsome healthy plants, and plenty of fruit. W.

LIST OF NEW PLANTS.

ORCHIDACEÆ. — *Gynandria Monandria.*

Epidendrum verrucosum. This beautiful and fragrant plant has been obtained from Mexico by Messrs. Loddiges, with whom it flowered in July last It is not very nearly related to any kinds hitherto discovered; belongs to the same set as *E. tessellatum* and *Candolli,* from all which its stems and flower-stalks, closely covered with minute asperities; and its rich crimson flowers, which are as much as three inches in diameter, readily distinguish it. Its closest affinity is perhaps with *E. phœniceum,* a native of Cuba, and *E. Hanburii;* but both those plants have the middle division of the lip two-lobed; and they are not, that we are aware of, fragrant. — *Bot. Reg.*

ROSACEÆ. — *Icosandria Di-Pentagynia.*

Cratægus crenulata. This plant is the Pyracantha of the Indian mountains and rivals that of the Caucasus in its rich scarlet haws, which are, however, of a peculiar vermilion tint, and of a very depressed figure. Their flavour, too, is by no means ungrateful. The shrub is a native of Nepaul, whence it was received by Dr. Roxburgh, of the Calcutta Botanic Garden, where he says it has grown to the height of from six to eight feet in eight years: it would have been better for us had he found it unkeepable. In the garden of the Horticultural Society it has survived several winters, trained against a south wall. It is a fine hardy evergreen shrub, attaining about the same size as the common Pyracantha, and requiring the same kind of treatment. It grows freely in any good loamy soil, and rather dry situation, flowering abundantly in June, and producing its fine clusters of bright red berries in September. — *Bot. Reg.*

ORCHIDEÆ. — *Gynandria Monandria.*

Dendrobium compressum. This singular species was discovered in the island of Ceylon by Mr. Nightingale, and by that gentleman sent to his Grace the Duke of Northumberland in 1840, in whose collection at Syon it flowered in 1842. The curious flattened stems are not more than three or four inches long, and resemble those of no species hitherto discovered. The singular form of the labellum, which is that of a wedge drawn out at the point, and furrowed along the middle, distinguishes this plant independently of its habit. The flowers are small and yellow — not at all handsome. — *Bot. Reg.*

BIGNONIACEÆ. — *Didynamia Angiospermia.*

Bignonia Carolinæ. All that we know of this charming plant is that it flowered with the Earl of Ilchester, at Melbury, in 1842, and again in May, 1844. It is a most desirable plant for conservatories; because, in addition to the beauty of its snow-white flowers, which the plant pours forth with exuberant luxuriance, they are sweet-scented, an unusual circumstance with Bignonias. We presume it to be a Buenos Ayres species.— *Bot. Reg.*

MELASTOMACEÆ. — *Octandria Monogynia.*

Osbeckia stellata var. A green-house plant of strong habit, producing large flowers of a crimson lilac hue. The species is found in Nepaul. Dr. Royle mentions it as one of those Melastomaceous plants which advance farthest to the north, in the valleys near Massooree, and on the banks of the Ghiree River. This variety was flowered in the garden of H. T. Hope, Esq., of the Deep Dene, near Dorking, in September last. — *Bot. Reg.*

RHAMNACEÆ. — *Pentandria Monogynia.*

Cryptandra suavis. The Cryptandras are little New Holland shrubs, with the aspect of heaths found on barren hills and rocky places, or in light sandy land. In a wild state they often become spiny, but in cultivation, when they are kept in a moist atmosphere, they much lose this tendency. The present species is a native of the Swan River; its flowers are very sweet smelling, like hawthorn; and though small, they render the plant attractive from the profusion in which they are produced all over the branches. Mrs. Wray, of Oakfield, has had the good fortune to raise it from seed. It requires about the same treatment as Cape heaths. — *Bot. Reg.*

CACTEÆ. — *Icosandria Monogynia.*

Echinocactus concinnus. A very neat little plant, about two inches high and three or three and a half inches in diameter, globose, but remarkably depressed at the top, and even convex there, and crowded with mammillæ, with their woolly and spinous areolæ, sending out in a stellated direction eight or ten slender spines, with one longer and stronger, but still slender, which is curved downwards. The flowers (one or two) proceed generally from the border of the depressed vertex or summit, are large and handsome; the numerous spreading petals are yellow, with a dark red streak down the centre. It is supposed to be identical with the *E. orthocanthus* of Pfeiffer's "Enumeratio." — *Bot. Mag.*

COMPOSITÆ. — *Syngenesia Æqualis.*

Chabræa runcinata, syn. *Leucheria runcinata.* An herbaceous annual from Chile, whence it was introduced by Mr. Bridges. The plant attains a height of about a foot or a foot and a half, branching from the root, and again above, sparingly clothed with oblong pinnatifid leaves. The flowers are white and, occasionally, rose-coloured; in general appearance closely approaching those of the double-flowering Senecios. — *Bot. Mag.*

PEDALINEÆ. — *Didynamia Angiospermia.*

Pterodiscus speciosus. For a knowledge of this splendid new genus of plants the botanical world is indebted to the Right Hon. the Earl of Derby. It was collected in Macalisberg by Mr. Burke, while engaged in procuring animals and plants for that distinguished nobleman in the interior of Southern Africa. It flowered in the stove at Knowesly in May, 1844, and rarely has a more desirable plant been introduced to our collections. The tuberous root is large, solitary, quite globose, the upper part elevated above the earth, and producing from its summit a stem, which soon divides into several erect, rather stout, succulent branches, bearing opposite leaves and large handsome red-purple flowers in the axils of those leaves — nearly as large, and quite as showy, as those of an Hibiscus. — *Bot. Mag.*

SOLANACEÆ. — *Pentandria Monogynia.*

Juanulloa parasitica. It will surprise many of our readers perhaps to be told that this fine plant, known in our stoves, we believe, for four or five years, and pretty widely dispersed under the name of *Brugmansia parviflora* and *B. floribunda*, has nothing to do with that genus, and is, in fact, one of the rarest of plants (speaking botanically). A reference to the figure, in the "Flora Peruviana," of Juanulloa parasitica will convince any one that the so-called Brugmansia can be no other than that remarkable "parasite" (or rather, I apprehend, an epiphyte) upon the trunks of trees in woods near Pozuzo and San Antonio de Playa Grande in Peru. It was there discovered by the authors of that fine work, and well figured by them. — *Bot. Mag.*

EPACRIDACEÆ — *Pentandria Monogynia.*

Epacris autumnalis. A very beautiful hybrid of robust habit, producing dense spikes of large flowers, of which the tube is rich crimson, and the limb pure white. Unlike most of its kindred, it commences blooming towards the end of October or beginning of November, and continues to flower through the winter till April. This feature, which is not the least interesting or useful, has suggested the specific name. It has flowered in the nursery of Mr. Low of Clapton. — *Pax. Mag. Bot.*

GESNERACEÆ. — *Didynamia Angiospermia.*

Gloxinia speciosa, seedling vars. No. 1. Cerina, a hybrid, between G. rubra and Sinningia guttata, of a pale rose-colour, obtained by Messrs. Mountjoy and Son, who describe it as of robust habit and free habit of florering. No. 2. Superba, a large flower of a deep rich violet hue, obtained by Messrs. Henderson, of the Pine-apple Nursery, about two years ago. — *Pax. Mag. Bot.*

TO CORRESPONDENTS.

A Subscriber, Forest Hill, will find some remarks on the general treatment of *Gesnerias* in our last; the management of *G. zebrina* differs only in continuing the period of activity through the winter, the plant being naturally a late flowerer. We imagine your plant to be in too cold a temperature — this would cause the buds to fall off. Place it in a heat of from 55° to 65°, and you will soon have a fine display of flowers. *Erythrina Crista-galli* is an accommodating plant, it may be grown either in a stove, a common greenhouse, or even in the open air. Like the Gesnerias, it should have a season of rest, which may commence now. Keep the plant quite dry until the middle of next March, then repot it; and if you wish for early flowers, place it in heat to start; but if you are content to wait until the natural season, the plant will grow stronger, and the flowers have a deeper colour, if kept in the greenhouse, with such treatment as is usual for plants in the same situation. Planted in the open ground, it merely requires to be cut down in the winter, and a little rubbish thrown over the crown, to defend it from severe frosts; and it then produces strong stems and dense spikes of flowers throughout the autumn. We have before expressed our opinion of the unfitness of guano for plants in pots; to others growing in the borders of the garden it is better to apply in a liquid state, but even then it is uncertain in its effects.

T. Barty, Esq. — Unfortunately the specimens sent both of insects and flowers were completely dried up when we received them, so much so that we could distinguish nothing but a few particles of earth in the quill. A little damp moss in a tin box is the best preservative for flowers, and would probably have retained some moisture about the insects.

M. J.—The following are twelve good Ranunculuses, the prices of which we cannot give. Your other request is answered in an article on oranges, p. 227.

Magellan.
Spheroid.
Leonidas.
Laura.
Major Laing.
Boz.
Talisman.
Sir James Graham.
Brilliant.
Saai.
Mona.
Flora M‘Ivor.

CALENDAR FOR NOVEMBER.

Plant Stove. What plants require now, and for some time forward, might be compressed into two words—healthy repose. Comparative dryness both in the atmosphere and the soil, and a low temperature by day, will secure repose; and a still lower degree of heat at night, the removal of dead leaves, and of any decaying matters, and fresh air admitted in small portions, so as not to produce a chill in the plants, will go far to preserve every thing in a healthy state. A temperature of 60° or 65°

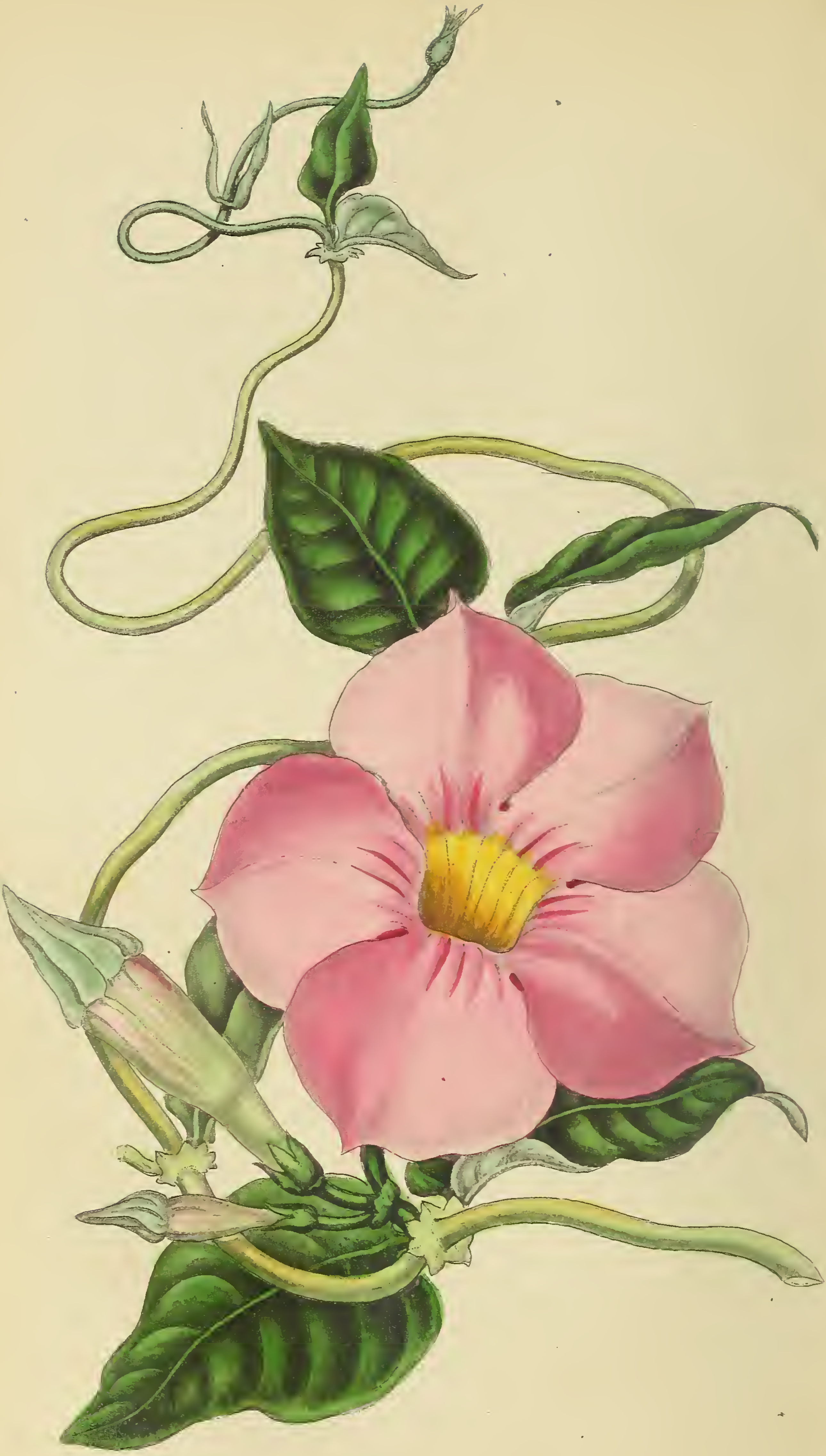
by day, is quite high enough, and 3° or 5° lower at night should be insisted on.

GREENHOUSE. In a cultural point of view, the remarks used above, will apply here also. In conjunction with cleanliness and atmospheric dryness, the simple exclusion of frost will be sufficient at this season. Use no artificial heat, beyond what is necessary to effect this. In fine weather the arrangement of greenhouse plants, in frames and pits, should be attended to, so as to present the readiest means of protection from frosts.

FLOWER-GARDEN. All the dying and decaying portions of summer plants and annuals, which are not removed, should be speedily taken away. In cases where it can be done, and the weather is dry and favourable, all the flower beds should be prepared early in the month, by removing part of the old soil, and adding fresh compost, which should be placed so as to profit most by atmospheric changes. Ranunculuses and other bulbs, which are intended to be planted before the spring should be put in early in the month, choosing dry and mild weather for the operation ; and the beds in flower-gardens should be planted as they are intended to remain during the winter if the soil cannot be renovated, and the beds left bare, which may sometimes be done in detached spots. The stock plants intended for next year, must be carefully preserved from frosts and damp ; attention to guard against the latter will render them far less susceptible of injury from the former. The less damp plants of all kinds have about their foliage, and the more equable the moisture maintained at their roots, the more likely they will be to survive the winter without injury ; many hardy and half-hardy plants, may be very simply and efficiently protected, by attending to these two considerations.

Proceed with tulip-planting : offsets and weak roots should be got in first. Carnations, picotees, and auricúlas require some care through this and the following month, to preserve them uninjured ; the chief danger is to be apprehended from an excess of moisture ; allow them to receive as large a quantity of fresh air as the state of the weather will permit. Dahlia roots should be taken up, dried, and stored away for the winter.

T. M.



DIPLADENIA CRASSINODA

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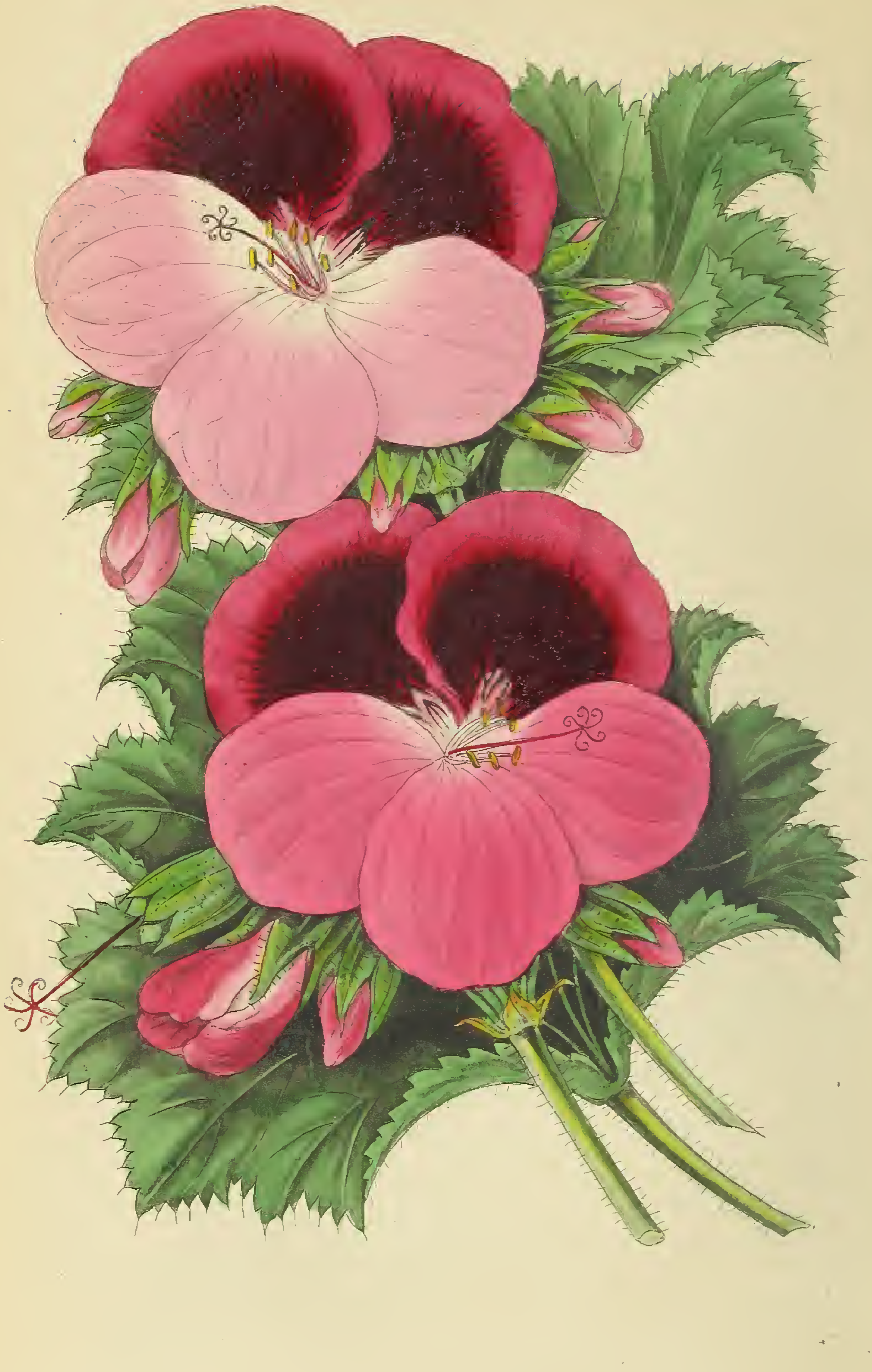

1 HOYLE'S TITUS _ 2 HOYLES CHAMPION

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THE

FLORIST'S JOURNAL.

December, 1844.

DIPLADENIA CRASSINODA.

WITH AN ENGRAVING.

The genus Echites is an extensive group of plants, well knonw to cultivators as eminently beautiful ornaments of the stove, and as such has received attention through some of its members for a lengthened period. Lately, however, some additions have been made, which promise to out-rival all the species previously known, and among them is our present subject.

This plant is a native of Brazil, where, we believe, it was originally discovered by Mr. Gardner, who described it as *E. crassinoda.* It was some time afterwards introduced to this country by Mr. Makoy of Liege, who sent it to Mr. Low, nurseryman, of Clapton, under the name of *E. carrasa*, and by that name it has become pretty generally known. But on the occasion of its blooming an opportunity for examining was presented, when it was found to belong to a section of the original genus, separated by the younger De Candolle, and distinguished by him through the name of *Dipladenia*, a word derived from the Greek *diplos*, double, and *aden*, a gland, in allusion to the glandular appendages to the nodes.

The plant produced flowers for the first time in England in August last at Wallington Lodge, Surrey, the seat of R.G. Loraine, Esq., to whose kindness and obliging attention we are indebted for our figure.

The usual culture of Echites is generally known to gardeners, and we presume that of Dipladenia must be assimilated to it. Mr. Loraine informs us his plant is "grown in a strong moist heat, in a compost of one-third loam and two-thirds leaf mould, and being placed on a tank it has the advantage of gentle bottom heat." The latter feature in its treatment may probably be adduced as the principal cause of the early developement of blossoms which occurred, for the plant appeared to be comparatively an infant; now it is well known the contrary is usual with plants of this description, a long period of time frequently elapsing before it can be ascertained if the trouble bestowed is likely to meet an equivalent return; should it, however, be proved, as we imagine it will, that the gentle bottom heat was conducive to the production of flowers, some years of attention may in future be spared.

It must not be thought that this treatment bears the least resemblance to "forcing" a plant; on the contrary, the bottom heat is described as gentle, so that, instead of becoming enervated, the plant must be accumulating vigour, and we should also remember this group of climbers being natives of very warm latitudes, must constitutionally require some such stimulant. It does appear somewhat strange truly, that a circumstance which, when pointed out, seems no more than a common sense view of the case, should never before have arrested our attention; however, we are glad that the application of bottom heat to tropical plants, and its beneficial effects, are beginning to be understood and properly appreciated by cultivators generally, and we trust it will be yet more extensively adopted.—EDITOR.

A SELECT LIST OF PICOTEES.

SIR,—Thinking a selection of the names of some of the very best show flowers might prove useful to those of your readers who are purchasing this season, I enclose the following, all of which I have proved to be first rate. There are some other new ones about which report speaks most favourably, but I have not grown them yet, so cannot speak from my own knowledge of them.

Heavy-edged Rose.

Green's Queen.
Wilmer's Princess Royal.
Brinkler's Beauty.

Twitchet's Fair Rosamond.
Kirtland's Mr. Annersley.
Wilson's Fanny Irby.

Light-edged Rose.

Barnard's Mrs. Barnard.
Garratt's Lady Dacre.
Burroughs's Lady Alice Peel.
Waine's Queen Victoria.
Dickson's Bride.

Heavy-edged Red.

Jessop's Sir William Middleton.
Wildman's Isabella.
Sharpe's Duke of Wellington.
Gidden's Teazer.
Barraud's Cornelius.
Brinkler's Rising Sun.

Light-edged Red.

Sharpe's Gem.
Sharpe's Countess De Grey.
Sharpe's Hector.
Burroughs's Mrs. Bevan.
Kirtland's Princess Royal.
Sharpe's La Delicate.

Light-edged Purple.

Robinson's Nottingham Hero.
Ely's Favourite.
Gidden's Vespasian.
Sharpe's Invincible.
Brinkler's Purple Perfection.
Brinkler's Lady Chesterfield.

Heavy-edged Purple.

Sharpe's Agitator.
Wilmer's Prince Royal.
Headley's Nannette.
Ely's Field-Marshal.
Dickson's Trip to Cambridge.
Mitchell's Nulli Secundus.

C. Embleton, *Brixton.*

HORTICULTURAL ESSAYS,

By the Members of the Regent's Park Gardeners' Society.

ERICA; ITS MANAGEMENT AND CULTURE.

BY MR. C. MOORE.

AMONG the numerous families which compose the vegetable kingdom, few surpass the *Ericaceæ* in the variety and beauty of their flowers; and especially their long continuance in the flowering state. The geographical distribution of *Erica* is confined to Europe and Africa, but extends to the most northern point of the former, and to the most southern of the latter; the most easterly point to which they extend is the Mauritius, where some of Salisbury's genus, *Salaxis*, are found. The Linnæan genus *Erica* has been subdivided into 22 genera, by Don; but who, it would appear, considered it only as an attempt to elucidate their characters more clearly, as will be found by a quotation from his own work on the subject:—"As happens in other natural families, the characters of the general groups of *Ericaceæ* are not so strongly marked as in those that are less so; but we are not on that account to give up the idea of dividing them, and to retain four or five hundred species in one genus, as has been done in the case of *Erica*, which we have attempted to subdivide into a number of minor groups; and, whatever opinion may be formed of their title and rank as separate genera, the arrangement of the species will, we trust, be found more natural than any hitherto proposed." Thus it will be seen that he questioned the propriety of what he had done. De Candolle, in his celebrated Prodromus, has adopted two or three of Don's genera, but has retained the greater number of the species under the original genus *Erica*, which, however, he separates into four sub-genera, including forty-nine sectional divisions: this answers the same purpose, and is by far the easiest and most preferable system. Having thus briefly stated some facts connected with the history of the Heath, we will now enter on its propagation and culture. To render the subject as subservient to practical purposes as possible, each operation will be treated of under a distinct heading.

PROPAGATION. — *By Seed.* This should be sown about the beginning of August, or the latter end of February: the former period, however, is preferable for this reason, that with ordinary success the seedlings will be sufficiently strong to stand the winter, and will be ready to pot off by the following spring; whilst by the latter, the plants will not be strong enough to pot off before the autumn, when it is dangerous to touch them; and by leaving them too long in the seed pot they are apt to get drawn, and are likely, therefore, during unfavourable weather, to damp off. A great error is frequently committed in covering the seed too thickly with soil: the many cases of failure are mainly attributable to this cause alone; because the seeds being small, their power of growth must consequently be feeble, and they are unable to remove the mass which is placed over them. The most desirable method to follow is to drain a pot well with potsherds, over which put some rough siftings of peat, or other fibrous mixture; then add the soil, which should be sandy peat, rather finely sifted; fill up with this to within half an inch of the rim, and, after being gently pressed down, leaving a level surface, sow thickly: finally, shake a small portion of silver sand over all, and, after watering with a fine-rosed pot, cover the mouth of the pot with a piece of common window glass, and place it in any cool situation near the glass. Such is the method I have followed, and which has been attended with the greatest success.

By Cuttings. This method of increasing stock has many advantages very superior to that by seed — for this reason, that plants raised in this manner are more precocious, more hardy, and less succulent in their growth; they partake of the same nature, and are as mature in every part as those from which they were taken. Thus we find that young plants from cuttings, when once properly established, are frequently covered with bloom at their regular flowering season; while some years must pass before the same degree of maturity will be arrived at by plants from seed. To increase this genus by seed is therefore seldom resorted to without novelties be the object in view: it is, however, a singular fact connected with this subject, and one sufficiently demonstrated by every-day practice, that a cutting from a seedling plant will sooner arrive at a flowering state than the parent plant itself. After thus briefly dilating upon this interesting operation, I will now, as succinctly as possible, state the method of raising from cuttings.

Probably in no part of the world are there so many heaths propagated, or so soon ready for sale, as in the neighbourhood of London. To those unacquainted with the practice, the rapidity with which a young stock is got up would surprise them. I speak more especially with reference to the free growing sorts. About the beginning of February, and sometimes sooner, young and healthy plants are taken into a house and placed near a glass, the average heat being from 50° to 55° (Fahrenheit): this will be sufficient to excite them rapidly into growth. When the young shoots are about half an inch in length, they should be taken off as near to the place from whence they commenced growing as possible; then with the propagating scissors, remove the leaves close to the stem, from about one half of the cutting, and with a sharp knife cut the base smoothly off, and immediately insert it in the pot ready prepared to receive it. In performing this operation great care must be taken that the cutting is not bruised, for being forced wood, it is very susceptible of injury. After being watered, and as soon as the leaves are dry, place the bell glass on, and plunge the pot to within two inches of the rim in half-spent tan, or any thing which will produce a steady but not too strong a degree of heat; cuttings treated in this manner will strike freely in the course of three weeks or a month. I may here observe that many persons before putting the *vestitæ* in the forcing-house, completely strip them of their foliage to cause them to break more freely; but healthy young plants, when excited, will produce plenty of young wood without resorting to the above. The most common, and decidedly the most sure, method to pursue with regard to heaths, is to take the cuttings from plants grown in the usual manner, but let the wood be as young as possible; treat the cuttings as detailed above, with this exception, that instead of plunging the pot in any warm material, plunge it in coal ashes or sand, but in a house where there is a higher degree of temperature than that from which the cutting was taken. It is a good thing with the more difficult sorts to set a small 60 or thumb-pot in the middle of the pot, and place the cuttings around the rim; they are found to root with greater certainty by this means; and as soon as they are struck, take the pot out, and fill up the place with peat; the young plants will then gain strength, and can be potted off with more safety.

Perfect drainage is a necessary requisite for all cuttings, but especially for the heath. I would therefore recommend another small 60 or thumb-pot to be inverted in that in which the cuttings are placed, on all occasions; then with broken potsherds fill the pot more than half full, over which a thin layer of rough siftings from peat, then with soil composed of three quarters of silver sand, and one quarter of peat, well mixed together; fill almost to the rim, and over all put a thin coat of well sweetened silver sand; after a gentle watering, the cuttings may be inserted. The neatest manner to put them is in rows, taking especial care they do not touch each other: this is done to prevent any cutting which may damp off from communicating it to another. All this tribe should be "glassed" until struck. The best kind of bell-glass to use is the domed or conical sort, as the moisture given off from the soil in the state of vapour, being condensed on coming in contact with the surface of the glass, returns down the sides back to the soil, while in the flat-topped glasses, it is apt to deposit itself on the top, and drop from thence on to the cuttings, thereby causing damp; thus obviating the necessity of wiping the glass, which should never be done but in extreme cases, as practice has proved that such a proceeding is quite unnecessary. Nothing can be more injurious to cuttings of this tribe than wetting the foliage; the custom, therefore, of taking off the glass to water is in the highest degree reprehensible, because, as sand is a conductor of moisture as well as heat, the thin layer of it on the top is put there for the purpose of becoming a subservient agent for disseminating the water equally over the surface; it should be given when required with a fine-rosed watering-pot, but without removing the glass.

As soon as the cuttings are struck, the glass should be tilted up a small way, so as to harden them off by degrees, until they can be removed to a colder house, where, after standing a few days, they may be freely exposed: if struck early in the season, they may be potted off any time during the summer, and will consequently be well established plants by the following spring;

but if, on the other hand, it be autumn before such is the case, it is better to leave them in the cutting pot during the winter, and pot off early in the ensuing spring. They require to be potted rather firmly at first, either singly or three in a small 60-pot; after which, place them in a frame near the glass, keep it closed and shaded for a few days, and admit air gradually. With ordinary success, they can be shifted a second time during the season; that is, if potted off early in the spring.

CULTIVATION. — *Soil and Potting.* Peat or bog earth, and silver sand, are the principal constituent ingredients for growing heaths. When for very young plants, it should be broken up rather fine and somewhat sandy; but for general purposes, the rougher it is the better; in fact, it cannot well be too rough. In order to keep it as open and pervious as possible, mix with it a quantity of charcoal broken up into good-sized pieces, some freestone, or, what is as good, plenty of pebbles, with abundance of silver sand, the latter being a powerful agent as a conductor of heat and moisture, and consequently very essential in the above composition: thoroughly incorporate the whole before using it Peat of a naturally sandy nature is not so desirable for growing plants in, as that which is less so; though certainly preferable for the purpose of propagating: but where luxuriance of growth is the object, a soil composed of decayed vegetable matter, full of fibre, and which will bear handling without crumbling to pieces: such as this, if prepared in the manner above recommended, will be found to possess more fertilising properties than any other. The best soils frequently become useless in consequence of injudicious potting and subsequent bad management; in whatever manner the former is done, it has no small share in the ulterior results: it is therefore of the first importance that such an operation should be properly attended to, both with regard to the manner in which it is performed, and the size of the pot. Some good growers have strongly recommended the "one-shift system" for the free-growing sorts, and some tolerable plants have been already produced on this principle, but no decided ultimatum has as yet been arrived at in respect to it; for whilst we find some pursuing it with success, we, on the other hand, find there have been tremendous failures, and with some of its strongest supporters. This only proves that whatever qualities the system may have, it is as yet generally but little understood; the idea, however, of growing on this principle ought not, before its capabilities are better tested, to be entirely repudiated. My impression is, that though a plant may succeed for a time by this method, yet that it will be of short duration, and its beauty but transient; because a plant shifted from a 60-sized pot to that of 16, will, with ordinary success, grow rapidly, and its roots reach to the side of the pot horizontally, from whence they first emanated, it being seldom, if ever, found that the roots of potted plants penetrate perpendicularly, there being nothing to attract in that direction. Pots, being composed of a porous substance, imbibe the carbon of the air, which, being a principal constituent of the food of plants, the spongioles are attracted thither; it is by these alone that food is supplied, and if so, we must presume that the nutritive principle which the soil contains, and which is imbibed by the spongioles, must be soon exhausted in that portion of the soil near to the side of the pot, where invariably the roots are in the greatest abundance, and where they will soon form a thickly interwoven mass if kept long in the same pot. A plant, however, will not long continue vigorous if it be only supplied with food in a gaseous state, though it may *exist* for a considerable time; and this explains why plants will continue growing, but weakly, even though left for a very long time in one pot; but when taken out, their roots will be found in an exceedingly matted state around the side, without one particle of soil amongst them; by removing a portion of this entangled mass, the soil appears. When large shifts have been given, the soil in the centre appears quite in a recent state, and completely destitute of radiculæ. We may therefore naturally infer, that plants shifted from a very small to a very large pot, cannot long continue in a healthy condition, as the fertilising constituents are extracted from one portion of the soil only; that a quantity of inert matter remains in the centre, and this, if not removed for a length of time, will become soured, and ultimately kill the plant. To grow such heaths as are intended to be kept for years, the safest and most certain principle to work upon is the progressive system. However, let it not be understood that I here recommend very small shifts; in too many instances this not only injures plants, but is a waste of time. I therefore prefer the intermediate course; viz. from a 60 to 32, or from a 48 to 24, and so on accordingly. I here only allude to strong healthy plants; a sickly plant can never be improved by getting a larger shift. The plan to be adopted in this case is to reduce the ball, and repot it, in rather fine sandy soil, and place it in a shady close situation, until it recovers.

It has been strongly insisted upon, by some cultivators, that heaths should be raised in the centre of the pot. From this the most absurd errors have been committed by many who were endeavouring to follow the advice, without at all exercising their own judgment; the result has been that some collections have been comparatively destroyed, and many splendid plants lost, through this alone. The principle may be good to a certain extent; but the extreme is attended with danger, and therefore ought to be avoided, because during the summer the sun's rays must act powerfully on the elevated part: the soil being sandy, will soon become dry and impermeable to water, and, in the endeavour to keep this sufficiently moist, watering is resorted to, the main roots become denudated, and the spongioles subjected to too great a quantity of that element. Two such opposite conditions, acting on the system of a plant at the same time, will soon destroy life, and thus many valuable species are lost by over kindness and attention. Such are my objections to highly elevated heaths in potting. The only necessary thing to be attended to in this operation is to insure a good and perfect drainage, putting plenty of broken potsherds, or charcoal, at the bottom, and over the drainage some of the most fibrous and roughest of the soil: pot firmly, and as high as possible, without elevating them prominently. It may be done at any time, from January to October, care being taken that the frost does not reach them immediately after; indeed, if it be early when they are potted, a little fire-heat will do them very essential service. About the beginning of April, syringe over head every fine morning; and, as the season advances, partially shade from the mid-day sun.

Exposure and Watering. As soon as they can with safety be fully exposed, the youngest plants should be plunged in some cool material in frames, freely exposing them in dull weather; but when the sun is powerful they should be syringed every morning, and the lights put on, tilting them up at each end as high as possible, with a slight shading; remove the lights and shade about three o'clock, and leave them perfectly open as before: pursue the same course till the end of July, when they may be placed in any cool but not shady situation, so that the wood may have sufficient time to ripen, before they are placed in their winter-quarters. With the large specimen plants a safe and more easy plan should be adopted: in a somewhat exposed situation, erect a temporary span roof, sufficiently large to cover the space the plants intended to be put out will occupy, and also strong enough to support rollers covered with thin canvas, such as is generally used for shading; but it is not for this purpose alone that the rollers will be of service: they will, when let down, afford a sufficient protection from heavy rains. Before placing the plants, put plenty of material down to insure a good drainage; on this, plunge the plants nearly to the rim, in coal-ashes, or any similar material, putting the largest plants in the centre, and gradually sloping them to the front. In this situation, they will stand during the summer with safety; they can be shaded or exposed at pleasure, and are as safe from heavy rains, comparatively speaking, as if they were kept in a house, which in general is injurious to this tribe, as there are few structures whose means of admitting air is sufficient to keep them from "drawing." The same routine of management should be followed with these as previously described for the younger plants, viz. syringing and shading during the summer growth; subsequently allowing the sun to have full action upon them. To make the plants grow dwarf and bushy, they should be frequently "stopped," by means of pinching off the tops of the leading shoots: examine the roots two or three times in the season, to see they are not suffering for want of pot room. When a heath is growing luxuriantly there is little fear of over-watering it, and therefore by no means allow it to suffer for want of that element. During winter, however, there is some nicety required in watering, and great care must be taken lest they are given too much. When necessary, at this season, they ought to get a good watering, and as seldom as possible. The most evil consequences arise by watering these often, and but a little at a time, because the small quantity given will not penetrate through one third of the soil, and the bottom becomes quite dry whilst the top is saturated. More plants are injured by this very cause than from any other I am acquainted with.* Where they are kept during the summer in houses, a good practice is to put the pot into a larger one, filling the empty space with sand or moss, which, when kept moist, answers the same purpose as plunging out of doors. The advantages are manifest; it secures the radiculæ against the danger of suffering from the action of the sun on the pot, around the side of which the greatest number of spongioles, or, in other words, feeders, are, and if at all injured, the other parts of the plant must suffer. I therefore hold it to be exceedingly wrong to stand them out without protecting their roots in some way or other from the sun's scorching rays, and keeping a moist and cool body where it is most requisite.

Structures. The best kind of structure for heaths is one having a loose span roof, with the top lights running down half way on each side; and where the side and end sashes can be let wholly down when required, so that, if necessary, air can be admitted at every point, and the house nearly thrown open. They will succeed as well, if not better, in pits, provided they stand on a dry bottom;—a pit constructed in a similar manner to that just recommended for the house, with this exception, that, instead of the side sashes there should be brick work about 2½ feet high, intersected with plenty of frame-work where air can be admitted at pleasure, the lights fastened at the roof by means of hinges, and means provided for tilting them up when required. Where such as this cannot be had, common brick pits are the best; but wherever they are placed, they should have abundance of air when the weather will permit; a cool and dry situation where the frost cannot reach should be their winter-quarters.

Diseases. The only disease heaths are subject to is the mildew; the cause of which I conceive to be, as a late writer on the subject has observed, "the want of a balance of moisture in the composition of the soil and the atmosphere, rather than, as is commonly supposed, to an excess of it in the former. The remedy consists in avoiding, as far as possible, an irregular composition of the atmosphere as regards heat and moisture; and also an excess or deficiency of moisture in the soil, so that each may be in a condition to exert its proper influence on the constitution and development of the plants."

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* An experiment which has been attended with decided success, has been made here this season; and as I am not aware that any thing similar has ever been tried before with the heath, I will here mention it. Some strong and healthy plants were selected from amongst others of a similar kind; these were watered once a fortnight with limpid guano water. The improvement caused by this treatment was so distinguishable, that the most superficial observer could not pass without remarking it.

For the guidance of those who are unacquainted with the more rare and beautiful species of Erica, a select list and the shape of the flower will be given.

Before closing this subject, one which has lately excited considerable emulation amongst cultivators, I have only to observe that what has been stated is from actual practical experience: each operation has been treated of in as graphic and comprehensible a manner as possible; and should the course of management be adopted as has been here recommended, there can be but little doubt of ultimate success.

LIST OF NEW PLANTS.

Aristolochieæ. — *Gynandria Hexandria.*

Aristolochia ornithocephala. There are few plants which present more striking peculiarities of form and structure in their blossoms than the various individuals of the genus to which the present plant belongs, which is a most remarkable one of the group. It is a large climbing plant with petiolated large leaves, in shape between cordate and reniform; the flowers are solitary, the perianth very large, dingy yellow, the tube at the base 2¾ inches long, obovate, inflated, marked with large black-purple reticulations; at the upper end this tube suddenly contracts, and is bent down at an angle; and this may be considered the base of the limb, which now becomes two-lipped. The upper lip is 5 inches long (resembling, with the inflated tube, a bird's head and beak): the lower lip has a narrow stalk, 2 inches long, which suddenly expands into an immense, reniform, beautifully reticulated, waved lamina, 4 inches long and 6 inches broad, the reticulations finely marked with deep purple on a pale yellow ground. It was raised in the Glasgow Botanic Garden from seeds gathered near Crato, Brazil, by Mr. Gardner, in September, 1838. — *Bot. Mag.*

Gesneriaceæ. — *Didynamia Angiospermia.*

Gesneria Gardneri. Discovered by Mr. Gardner, on the Organ Mountains of Brazil, in March, 1841, and raised from seeds at the College Botanic Garden, Dublin, where it bloomed in July, 1844. It is very distinct from any species hitherto described, and remarkable for the thick fleshy leaves, shaped not unlike those of the elm, pale coloured and with prominent nerves beneath. The flowers are solitary, of a pleasing carmine tint, proceeding from the axils of the leaves. — *Bot. Mag.*

Boragineæ. — *Pentandria Monogynia.*

Myosotis azorica. This beautiful *Forget-me-not* is found about waterfalls and on wet rocks with a north-east aspect, in the islands of Corvo and

Flores, the most westerly of the Azores. Its proper habitat appears to be on the mountains; though it comes down nearly to the sea-shore, following the course of rocky mountain streams, where the atmosphere is kept humid by the spray of the water. The deep rich indigo-blue of its numerous flowers, and their long succession from the lateral branches, combine to render this species well deserving of cultivation, provided it can be brought to flourish in the drier climate of our gardens. It will require a loose, peaty or sandy soil, careful shading from the mid-day sun, frequent sprinkling with water, and to be covered with a glass in hot, dry weather. It will bear some frost, but may likely prove more impatient of cold than our native species of the genus. In a Wardian case it would probably succeed very well. — *Bot. Mag.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Ancœtochilus setaceus. One of the most exquisitely beautiful of all plants in the hue and marking of its leaves, not to be imitated by art. Their colour is a rich velvety green, tinged with copper, and over that appears to be laid an exquisite golden network: the under side is quite different, of a reddish tinge, with obscure yellow veins, but all that is most beautiful is exposed to view. It is a native of damp shady woods in Ceylon, Amboyna, and Java, and probably of the Indian islands generally. It requires to be grown in a stove, kept constantly moist, and covered with a bell glass. — *Bot. Mag.*

PLUMBAGINEÆ. — *Pentandria Pentagynia.*

Statice macrophylla. This splendid plant was introduced, we understand, from the Canary Islands by Mr. Smith, of the Botanic Garden of Hull; and it is now much dispersed among the gardens of this country, where, grown in a large pot, and kept in the greenhouse, it bears its large panicles of purple and white flowers during the month of April. — *Bot. Mag.*

CONVOLVULACEÆ. — *Pentandria Monogynia.*

Ipomœa Hardingii. An hybrid, raised by Mr. Harding, gardener to H. Bevan, Esq., of Glynn Garth, Beaumaris, between *I. rubro-cærulea* and *I. Horsfallii:* the flowers appear to be intermediate; but the foliage differs very much from that of either of those species. — *Pax. Mag. Bot.*

CYRTANDRACEÆ. — *Didynamia Angiospermia.*

Chirita sinensis. This charming little greenhouse plant is one of the first results of any importance from the voyage to China by Mr. Fortune on account of the Horticultural Society. It was sent home in a wooden case, and its beautiful, large, lilac, fox-glove-like flowers were open when it arrived. It appears the plant belongs to the genus Chirita, distinguished from Didymocarpus by its stigma, having the upper lip abortive, and the lower two-lobed. Those who see what this is, may judge how desirable it would be to obtain from India the other species of the genus, among which are some still finer; and they are all so easily cultivated that they are just the things to introduce into gardens. Anybody who can grow a Gloxinia can manage a Chirita. — *Bot. Reg.*

ORCHIDACEÆ, § VANDEÆ, || MAXILLARIDÆ. — *Gynandria Monandria.*

Anguloa uniflora. This new species of the long lost genus Anguloa was flowered by Mr. Barker, of Birmingham, in April last. We believe he received it among Linden's collection in Columbia; according to Ruiz and Pavon it is found in precipitous places about Muna and Chincao in Peru, and profusely in the woods of Tarma, where it is called Carpales. It is a sweet-scented plant, with large white flowers, slightly tinged with yellow, and the whole habit of a Lycaste, to which genus this approaches very nearly. — *Bot. Reg.*

ON PELARGONIUMS.

WITH AN ENGRAVING OF HOYLE'S TITUS AND HOYLE'S CHAMPION.

THE present being the season when cultivators of this favourite flower are making inquiry for new varieties to add to their collections, in order to compete successfully next summer, we have thought it better to publish our figures now, while they may be useful to purchasers, than to reserve them for the next volume, when much of their interest would have passed away.

Our plate last month contained two seedlings raised by that successful cultivator, P. E. Lyne, Esq.; the present are the production of the equally eminent raiser, G. W. Hoyle, Esq., of Guernsey; they are now in the possession of Mr. W. Miller, nurseryman, of Ramsgate, who, we believe, has a very healthy stock of the plants. Lyne's White Perfection and Princess Alice, Hoyle's Titus, Champion, and Pompey, and Beck's Zanzummin, are six that will be found indispensable, and are perhaps the best the season has produced.

While on this subject, we should like to call the attention of our friends who are growers of Pelargoniums to that inexplicable and destructive disease known commonly as the "spot;" we have many and conflicting accounts of it, in some instances resulting, or appearing to do so, from an excess of moisture; in other cases the contrary treatment has prevailed, and yet the plants have been equally subject to its ravages. We are desirous of doing something towards the suppression of this pest, and as the best means of deriving a correct opinion as to its origin, we invite those interested to send us a statement of its first appearance with them, and under what circumstances it seems to extend with the greatest rapidity, and if any and what remedy has been applied, together with the result.

It is generally regarded as the work of either a parasitical fungus or some extremely minute insect; but we are fearful the primary cause will be found an inbred constitutional weakness, caused by the very high breeding the plant has been subject to, for we have never been cognizant of an attack of the same nature on any of the old kinds, which retain their original robustness in nearly all situations. The Pelargonium "spot" may, however, be found of the same origin as that which infests to so lamentable a degree the Carnation, which has been attributed to a continental importation. This will probably be determined by the data we request.—EDITOR.

LIST OF CARNATIONS AND PICOTEES.

SOME misconception having arisen with regard to the descriptive list written by me, in last month's "Florists' Journal," I beg to state that I did not intend it as a list of *all* the best in cultivation, but an account of a few good ones I had either grown myself or seen in cultivation. Some errors crept in in the course of printing: "Wildman's Isabella," "Orson's Adelaide," and "Jessop's Sir William Middleton," are inserted under heavy-edged *rose* picotees, instead of heavy-edged *reds;* and "Sykes' Eliza" is said to be one of the best *reds,* instead of one of the best *roses.*

H. H. D.

CALENDAR FOR DECEMBER.

IT cannot be too often repeated, that the present season of the year is that in which the principal feats which are intended to be achieved during the following season should be planned and arranged; the requisite appliances should subsequently be provided at the most favourable opportunities, and then little or no delay will be experienced at the time of action.

PLANT STOVE. The ordinary stove plants should be still maintained in a state of rest; the temperature may be 65° by day, 60° by night, maintained as evenly as the opposing force of the external elements will admit. Keep not only the plants, but the pots and surface of the soil, free from filth of any kind, by prompt corrective operations: this is of much importance to their health, and ministers in no small degree to the pleasure of inspecting them. Plants which were excited for early flowering last month should be gradually submitted to a higher temperature, but not exceeding 70° of artificial heat; others to succeed them should be "forwarded a stage."

GREENHOUSE. Keep a cool dry atmosphere, if the health of a general collection is studied, and the flowers are required at their natural seasons; if otherwise, a little extra heat must be applied. In ordinary cases, 45° is sufficient, with plenty of light, and also of air, when the latter is not too keen. Avoid draughts, or currents of air, or any thing which would rapidly dry up the moisture in the soil, and render a fresh application of it often necessary; for this reason a preponderance of *top air*, and a less proportion admitted directly about the pots, is preferable. In the pits and frames, the main objects are to exclude frost securely, admit light and air abundantly, and apply water sparingly.

FLOWER-GARDEN. The protection of all kinds of plants that need it, some from extreme or suberabundant wet, and others from cold, should be attended to. Florists' flowers, and bulbs generally, require the former more than the latter; and such is likewise the case with many herbaceous plants. In all cases, too, it should be the first step in affording protection against cold. But little else can be done to the plants; and advantage should therefore be taken of all spare time to prepare composts, flower sticks, labels, and such other articles of use as are likely to be in requisition during the ensuing season.

We have now had the pleasure of directing the attention of the amateur cultivator to the principal features which should regulate his gardening operations during one entire season; in doing this, we have all along referred more directly to the principles which should overrule his operations, than to the details of the operations themselves, since these latter will be found to vary almost in every case, whilst the former, if true, are immutable. In closing this brief acquaintance, we cannot do better than recommend the motto, "Science with Practice;" let practice be always guided by correct scientific rules, and it will be — it must be, improved.

T. M.

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END OF THE FIFTH VOLUME.

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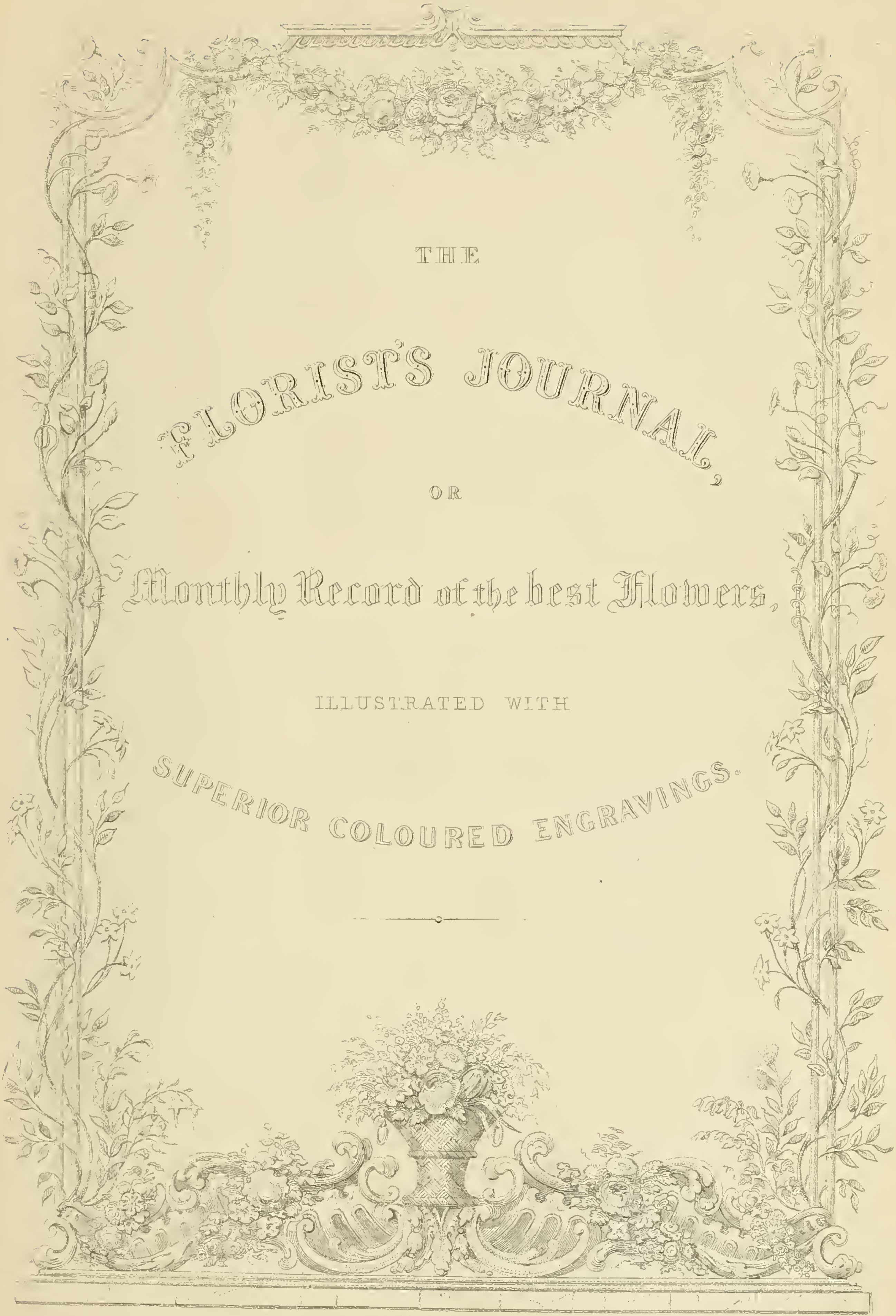

THE

FLORIST'S JOURNAL,

OR

Monthly Record of the best Flowers,

ILLUSTRATED WITH

SUPERIOR COLOURED ENGRAVINGS.

Alfred Adlard, sc.

THE

FLORIST'S JOURNAL

FOR THE YEAR

1845.

[Vol. 6]

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AND ALL BOOKSELLERS.

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PREFACE.

THE opportunity of annually addressing our readers in the familiar and confidential manner of mutual intercourse, is one we are ever proud of; being fully impressed with its value as an occasion for explaining our present position, and of stating what in the prospective seems likely to affect our future arrangements.

On the completion of this, the Sixth Volume, we have the gratification to observe that THE FLORIST'S JOURNAL is now in a higher position than at the close of any preceding one; a steady increase of the circulation having continued throughout the entire year, and offers of assistance continue to reach us from all sides: these are matters of gratulation which serve to quicken and increase our desire to be useful. After tendering our cordial thanks to both contributors and readers for this addition to former favours, we proceed to mention the arrangements we propose to adopt in the future management of the Journal.

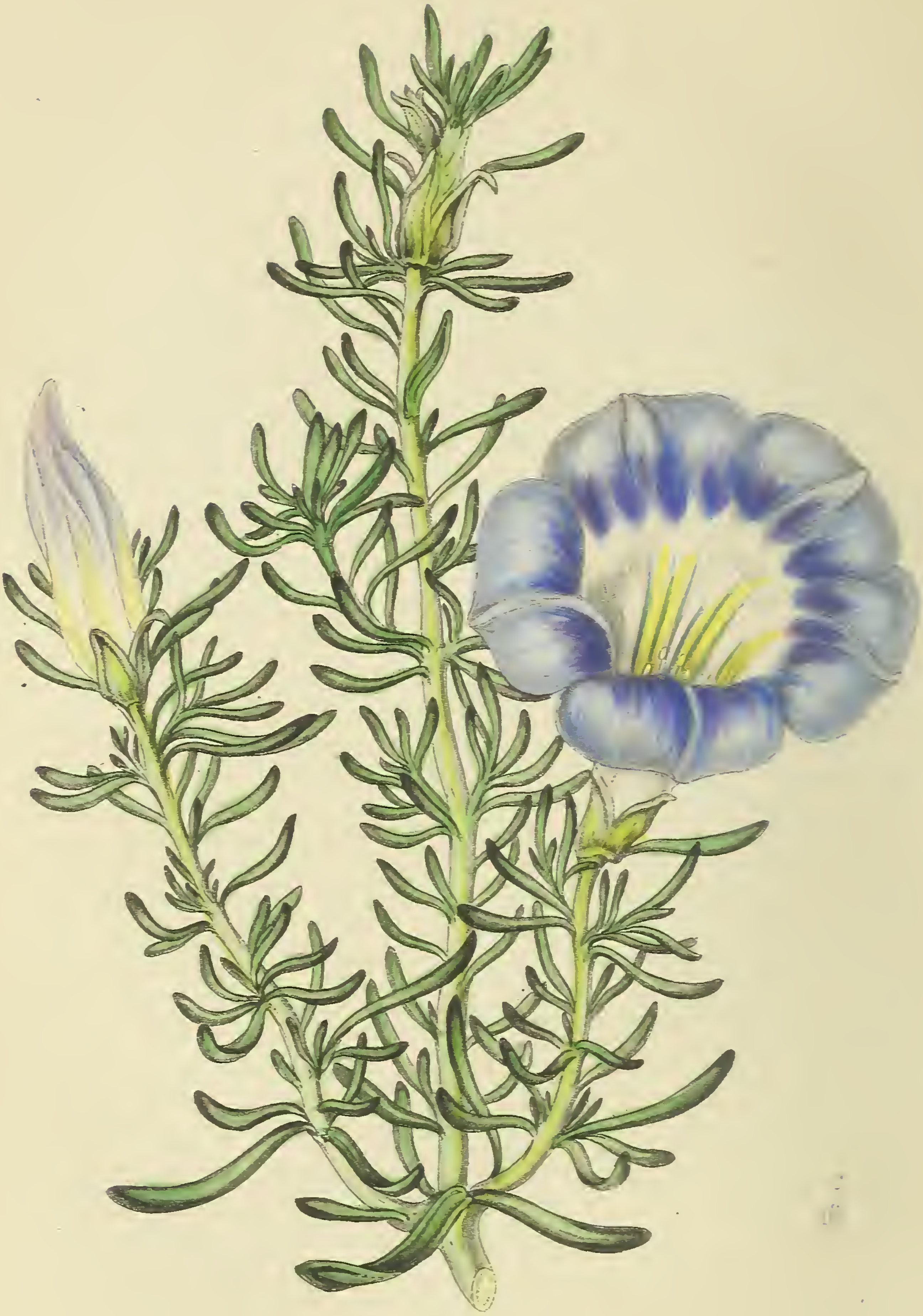
It has been shown to us by a great number of correspondents, that the main object in the establishing of the Journal, its general usefulness, would be very much extended by an increase of its size, and having experienced a great deal of inconvenience from its present space being so inadequate to the flow of subjects kindly forwarded, to say nothing of the disappointment arising from the non-appearance of excellent papers; this, together with the numerous promises received from those who can contribute the best of matter, and the vacuity which has existed in garden literature since the cessation of the "Gardener's Magazine," has induced us to accede to the repeated requests of our friends, and with the succeeding volume will commence a NEW SERIES OF THE FLORIST'S JOURNAL. Each number will then contain two plates instead of one as at present, accompanied by double the usual quantity of letter-press on *every subject connected with a garden;* information will thus be conveyed on various matters that we have hitherto been obliged to suppress, and the gardener, the florist, the amateur and general lover of flowers, will be presented with a means of acquiring knowledge in each respective division. All matters pertaining to Horticulture will be treated of in succession, and nothing neglected.

A variation of the plates will also be effected by the occasional introduction of coloured figures of new or esteemed varieties of fruit, and illustrative woodcuts will be interspersed with such subjects as may require it, and the price of each number will be one shilling.

Thus we hope to supply the gardening world with a work of sterling value, suited to the wants and means of all; and to enable us successfully to carry forward this project, we earnestly beg the continued co-operation of our friends, trusting our increased though humble efforts may be mutually beneficial.

It is only necessary to add, the property in the work, and the direction of it, will continue in the same hands, and the style and title of the book remain unchanged.

With renewed acknowledgments of past obligations, we beg to commend the New Series to the favourable attention of all our friends.



ALONA CŒLESTIS

THE

FLORIST'S JOURNAL.

January, 1845.

ALONA CŒLESTIS.

WITH AN ENGRAVING.

The majority of flower gardens are indebted through the latter portion of the summer season for no inconsiderable amount of beauty to the interesting cerulean-tinted flowers of the genus *Nolana;* and, through the agency of two of its species, *N. prostrata* and *N. atriplicifolia*, it has become well known and valued: there are also two others, *N. tenella* and *N. paradoxa*, which were introduced some years back, but being of little beauty, have been allowed to fall out of cultivation, and are now nearly or quite lost to this kingdom. These are all annuals, but there exists in Chili and Peru a group of shrubby plants, very nearly allied, and that have hitherto been considered as forming part of this genus, which, now that an opportunity is afforded for examination, are found to possess generic distinctions sufficient to call for a separation of the genus as originally constituted. Some of these plants are represented by their discoverers as being remarkably beautiful, and this character is fully borne out by the fine appearance of our present illustration, which is the ·st introduction of the class.

Dr. Lindley, in the *Botanical Register*, 1844, t. 46., has made the required separation, and explained the distinctions on which the several new genera are founded. We take the liberty of quoting the following: —

" The genus Nolana, as at present constituted, includes plants so different from each other in structure and general appearance, that considering the principles adopted in the classification of the Convolvulaceous, Boraginaceous, and other allied orders, it is necessary to break it up into several genera, for which good characters will be found in the very remarkable fruit, and probably in the flowers also, whenever an opportunity shall occur for examining them in a fresh state.

"If we regard *Nolana prostrata* as the original species of Nolana, we shall find its distinctive character resides in the regular combination of its twenty ovaries into five nuts or drupes, each of which is four-celled.

"But there is another group, consisting principally of shrubs, in which the ovaries are very irregularly combined, so that while some of the nuts or drupes are four or more celled, others have not more than one, two, or three cells. They may be conveniently separated under the name of Alona (the anagram of Nolana).

"Corresponding with these in the irregular condition of the fruit, but not having more than eight or ten ovaries in combination, are two singular plants, with all the habit of shrubby Salsolas, and a very small hypocrateriform corolla. They may be named Dolia (from δολιος, deceptive); they being one thing and looking another.

"On the other hand, in Nolana paradoxa and atriplicifolia, there is a complete breaking up of the twenty ovaries into so many independent drupes. Those species constitute a group, bearing the same relation to the other genera, as Malope to its neighbouring Malvaceæ. The name Sorema (from σωρος, a heap) may be applied to them.

"Finally, under the name of Aplocarya (απλοος, simple, and καρυα, a nut) it will be desirable to station a singular scrubby shrub, in which the ovaries are five in number, and altogether simple."

In addition, brief characters are given of each species under this new arrangement, by which it appears the first division, or NOLANA, contains five; viz.

*N. *prostrata*,	a native of	Chili.
*N. *tenella*,	—	Chili, syn. N. paradoxa.
N. *spathulata*,	—	Peru.
N. *inflata*,	—	Peru.
N. ? *coronata*,	—	Peru.

The second division, or Alona, is more extensive. Its species are—

**A. cœlestis*,	a native of	Coquimbo.	
A. rostrata,	—	Coquimbo.	A very fine species, with flowers as large as the last.
A. obtusa,	—	Coquimbo.	Like the last, but leaves shorter, flowers smaller, and calyx different.
A. glandulosa,	—	Coquimbo.	Flowers smaller than in the last.
A. carnosa,	—	Coquimbo.	Flowers as large as those of A. obtusa.
A. tomentosa,	—	Valparaiso.	Small white flowers.
A. revoluta,	—	Peru.	Herbaceous, shrubby at the base; flowers as large as in Nolana prostrata.
A. baccata,	—	Coquimbo.	Flowers large and apparently yellow; drupes quite pulpy in the dried state.
A. longifolia,	—	Coquimbo.	A coarse half succulent plant, with flowers an inch and a half long.

The third division, Dolia, has only two species:—

D. vermiculata,	a native of	Coquimbo.	
D. Salsoloïdes,	—	Chili.	This has quite the appearance of some of the Salsolas, or still more of Chenopodium maritimum.

The fourth division, Sorema, contains—

* *S. paradoxa*,	a native of	Chili, syn.	Nolana paradoxa.
* *S. atriplicifolia*,	—		Nolana atriplicifolia.

And the fifth, Aplocarya, has

A. divaricata, a native of Coquimbo. The scrubby shrub before alluded to.

Those marked with an asterisk are the only species that have yet been introduced to our gardens.

For this list also we are indebted to the *Botanical Register*, which, in addition, has much valuable information to the botanist on the subject.

The credit of raising and flowering the subject which has called forth these remarks (Alona cœlestis) is due to Mr. Best, nurseryman, of Reading, late gardener to A. Park, Esq., of Merton Grove, Surrey. The seed was introduced in the spring of 1843 by Mr. Brydges, from Argueros, Chili; Mr. Best receiving it in April of the same year from Mr. Carter, seedsman, of Holborn. The treatment it received at his hands, and by which it has grown and flowered finely, is this:—

The soil used was a mixture of one fourth peat, a good proportion of sand, and the remainder fresh turfy loam, in which the plants grew freely, the large fleshy roots penetrating through the bottom of the pot frequently during the winter, and the plant was as often repotted, for if not attended to in this respect, the foliage at any season is very liable to turn yellow, giving it an unhealthy appearance.

Mr. B. says, " When the large-shift system is adopted in its culture, I would recommend the use of a large portion of broken potsherds intermixed with the soil, every cultivator of plants being well aware of the absorbing properties of this material, and the plant requiring a very liberal supply of moisture will at once convince them of the beneficial effect of such a course.

" An airy situation in the greenhouse (or cold pit, I think, would be preferable) will suit it, or it may be grown altogether in the open air. The whole of my stock has been exposed to the vicissitudes of heat and rain since May last, and I do not find that the heat discolours the bloom or injures the plant in the least, so that I think we may conclude it is well adapted for bedding out during the summer months. The plant with me has proved a perpetual bloomer since June last, with every appearance of an abundant supply for the next six weeks. (Sept. 11th.)

"Its degree of hardiness I am yet ignorant of, not having had an opportunity of testing it by exposure to frost."

Thus then it appears we have another most valuable addition to our ornamental plants, which may be preserved with only ordinary attention, peculiarly suited for bedding in the flower-garden, where its neat habit, resembling a succulent heath (if such a thing can be imagined), and its lively blue flowers, produced in such long succession, will ever make it an attractive object.

EDITOR.

ON THE RANUNCULUS.

SIR, — Your Correspondent T—— wishes to know why (in a short note under the signature "CLERICUS") I recommend old cow dung for ranunculus beds in preference to fresh, and suggests that the nutritive properties of the manure are likely to be lost by keeping. I do not pretend to give him an answer on scientific principles, but on practical observation, and do not assert the answer to be the most plausible one, though I think the fact to be true. If T——will examine any heap of partially decomposed cow manure, he will find, I think, a vast quantity of earth-worms and larvæ of various kinds ; in addition to what he *sees*, many thousands are then in embryo, and if he takes a portion of that, and has the worms picked out of it, he will find that after lying for some time many small worms may be detected through it, which have come into being during that period; now, although worms are always troublesome any where in a garden, there is no bed in it that they are likely to deface more than the ranunculus bed, as they drag the roots out of their places, and thereby disarrange the whole bed; they also make it porous and light for the water to run through, which with this flower is highly injurious. Now, by using old manure much of this is obviated; the worms have all attained a good size, and can be easily picked out, and there are no young ones to take their place.

There must be something too in fresh manure injurious to this flower, especially in hot seasons, as the past year has proved. My beds prepared as directed in your October Number escaped tolerably well the terribly destructive season, whilst others prepared with fresher manure were scorched, and lifted miserably. The experience of such eminent growers as Lightbody and Tyso are also, surely, a very good reason for using it as I have directed. Have Mr. Lockhart's succeeded well this year? or has the hot season shown him that fresh manure does not answer? I merely ask this from not having seen him, entering the lists as usual at Chiswick and the Surrey Gardens against Messrs. Tyso.

While upon this subject allow me to send you a list of a few good sorts, which T—— will do well to add to his list, if he does not already possess them, as they are sure to give satisfaction:—

Lightbody's Chimpanzee. An ugly name for a most beauteous flower; a white ground with a broad rose edge about the eighth of an inch deep; large size, free grower and bloomer.

Lightbody's Larne. A full, beautiful, white ground with a purple edge; a most striking and desirable variety.

Lightbody's Talisman. A very delicately beautiful flower; white ground with a narrow pencilled edge of bright purple; a first-rate flower.

*Lightbody's Sir John Graham.** Another very beautiful flower; ground colour a clear primrose, edging a bright purple, petals very waxy; a very first-rate flower.

---

* [It appears from our correspondent's description that there are two different flowers sold under this name. We have a Sir John Graham (said

Lightbody's Lady Sale. White ground, with a rose spot regularly distributed over it; a new flower, and one deserving of a place in every collection.

Lightbody's Blank. Another very pretty flower; white ground, with light purple mottled.

These six are expensive kinds. Of less scarce sorts, Lightbody's Triton, Margent, Constantia, Vanguard, Splendour, Princess Royal, and Tartar can be recommended.

Tyso's Edgar. This flower has been called by judges about London the model of perfection; its shape is very good; yellow ground, red edge.

Tyso's Pauline. A delicate pretty flower; white ground, lilac edge; and, when caught not too fully open, a very delicate and pretty variety.

Tyso's Delectus. Yellow ground, with red edge; another pretty and well marked flower. These two were figured in the second volume of *The Florist's Journal.*

Tyso's Perfect. A good yellow flower; comes occasionally with a narrow red edge, but more frequently is a yellow self.

Hubert, Cathcart, and Vendome, by the same raisers, are also very good kinds. I can bear my humble testimony to the exceeding liberality with which both these growers are accustomed to treat their customers. My own taste inclines to Mr. Lightbody's flowers, as they are fuller and less apt to show the eye. But no collection now-a-days can be complete without a few of each: and they have this very great qualification, that while the old Dutch kinds are so exceedingly uncertain, both in their growth and in their flowering, these seedlings always hold their ground and bloom freely.

I have thus endeavoured to answer T——'s question, and trust my answer is satisfactory; and, in conclusion, beg to say that

---

to be Lightbody's), the description of which stands thus: — first-rate flower, white ground colour, with medium crimson edge. There is also a Sir *James* Graham, or rather two of *them*, the correct one being a decidedly inferior flower; it is white with purple spots. The other is that sold by Messrs. Lockhart erroneously under the latter name, it being the true Sir *John.* We believe Mr. Lightbody originally called this flower Sir John *de* Graham. — Ed.]

We shall be glad to receive the directions for planting our respected correspondent mentions.

ranunculuses require but little attention now till planting time, except looking over them occasionally, to see that no mildew gets on them. The beds may be occasionally raked over to get rid of weeds, moss, &c., and if wireworms are in the ground, it would be desirable (as I have done) to put some sliced potatoes in them so as to entrap the insects before planting time. I may perhaps (if you wish it) send you a few observations with regard to planting in time for your February Number; and remain, Sir, your obedient servant,

H. H. D.

Bray, Ireland, Nov. 1844.

Horticultural Essays,

By the Members of the Regent's Park Gardeners' Society.

ON THE PREPARATION AND PLANTING OF ORCHARDS.

By Mr. E. Brag.

Orchards are portions of ground appropriated to the growth of fruit trees only. When made on an extensive scale, they generally contain apple, pear, plum, and cherry trees; but a complete orchard should contain besides, quinces, medlars, mulberries, services, filberts, Spanish nuts, and barberries; also walnuts and chestnuts, the two latter are well adapted to afford shelter to the rest, and for that purpose should be planted around the boundary, at the most exposed places.

The situation which is selected for an orchard should be rather elevated than otherwise, on a gentle declivity, and open to the south and south-east, to give free admission to the sun, and to promote a circulation of air, which will dry up damps and disperse fogs, and by this means induce healthiness in the trees, and a high flavour in the fruit. It should, however, be well sheltered from the north and westerly winds, and if not naturally so by the surface of the ground, it must be rendered so by plantations, for which purpose the chestnut and walnut trees already referred to will be well adapted. In very exposed situations, and where there is plenty of room, a few forest trees may be added, at a little distance.

That soil which produces good crops of corn, grass, or garden vegetables, will also do well for an orchard. A loamy soil should, however, be preferred, and a shingly or gravelly soil avoided, unless there is loam intermixed: a medium soil, between light and dry, and wet, and stubborn, will be suitable. If the subsoil is clay, the roots will require to be cut in every four or five years, to prevent them from penetrating too deeply. Before planting, the soil should be trenched two spades deep, and ten feet broad, where the trees are to be planted, and the subsoil should also be loosened, if it is not clay, which is best kept trodden down. If it is pasture land, it ought to be ploughed and summer fallowed, to kill the grass, as well as pulverize the soil. I consider ploughing to be more effective than trenching, as the latter operation turns the sod below, where it is a long time decaying, and harbours the grub, which frequently does mischief to the roots.

The best time for planting on a dry soil is October; if wet, the end of February or even March is preferable. It will be necessary to support the trees against the wind until they become well rooted. In planting, endeavour to suit the trees as well as possible to the soil and situation, and to plant them at proper distances from each other; this may be from forty to eighty feet, according to the size attained by the trees when full grown. Fruit trees, when planted too thickly, are liable to become blighted, and covered with moss, which is highly detrimental. Procure the trees, if possible, from a similar soil to that in which they are about to be planted, or rather more sterile, for trees when transplanted from a rich soil to a poor one, seldom thrive; but if from a poor soil they are removed to a more fertile one, they will seldom fail.

In the choice of trees, too much care can scarcely be bestowed: none should be admitted which have not good roots, fair clean stems, and properly formed heads. It is necessary, too, to secure a proper assortment of varieties, especially of apples and pears, for much will depend on this: very few of the summer kinds will suffice; a greater number of autumn kinds should be chosen, and still more of the late kinds, as upon these latter will depend the supply, from the month of January to July. In general, a greater quantity of apples should be planted than of any other fruit.

If the trees are planted in the quincunx order, and at a distance of eighty feet apart, the ground between them may be cropped, if thought proper. Ploughing, or digging the ground, provided it be not done so deep as to injure the roots, will serve to keep the trees in a healthy flourishing state, by admitting the sun and rain.

If the spring, after planting, should prove a dry one, it will be desirable to mulch the surface, as far as the roots are likely to extend, with half-rotten dung, or leaves; or it would be better to procure some turf, and lay it the grassy side downwards; either of these plans will keep the ground moist, and save a great deal of watering, and when decayed they may be dug in, and will thus become beneficial.

Trees that are of different sizes, when full-grown, should never be planted promiscuously; but if the soil is favourable, plant the large growing ones towards the back, and the others in succession according to their size. In this way, when viewed from the front, they will have a very agreeable appearance, which will not be the case if they are planted without order; and, at the same time, the more delicate kinds will not be liable to be injured by those which are more robust in their growth.

When cattle are intended to feed beneath, the stems of the trees should be high enough to prevent them from injuring the lower branches; and they should be fenced in such a way as to prevent their bark from being injured by the rubbing of the cattle, especially whilst the trees are young.

If the surface of the soil is liable to become wet, it may be drained in this way:—Let deep furrows be made, from one to two feet in depth, and from one end to the other of the ground, between every two rows of trees, and then let the ground be sloped to the bottom of the furrow: if it is in pasture, the turf may be taken up and relaid when the furrows are formed. If the ground is naturally wet, underground drains will be required.

Burning weeds, rotten wood, or any rubbish when the trees are in flower, might be found a great preservative against blights and caterpillars. I would recommend annually washing the trees with one of the many mixtures which are used. The following is a simple and effectual one: — Mix fresh cow-dung with urine and soap-suds, and after scraping off all the moss and cankered bark, wash over the trees with this mixture; this will prevent the growth of moss, and lessen the number of insects, by destroying their eggs.

April 28. 1844.

ON THE CULTURE OF BALSAMS.

By Mr. D. Watt.

The Balsam is one of the best of our annuals; it was originally brought from the East Indies in 1596, but since then has been greatly improved by cultivation. It succeeds well in a rich, light compost, such as equal parts of turfy loam, leaf-mould, and well-decayed sheep's dung. To grow them to good advantage, and flower them early, the seeds must be sown the latter end of February, in equal parts of loam and leaf-mould: they should be placed on a gentle bottom heat, and as near to the glass as possible. As soon as they have formed two leaves, put them singly into 60-sized pots, still keeping them on a bottom heat: when the roots reach the sides of these pots, shift them into 48's; thence the "one-shift system" may be adopted with success. To bring them to a flowering state, use the compost I have above recommended; water them freely with manure water, made with decayed sheep's dung; keep them near the glass, but at a sufficient distance apart to allow them the full benefit of the light; remove the first straggling blossoms as they make their appearance on the plants, and afford them sufficient air to prevent them becoming weak and drawn: under this mode of treatmont, by the month of June, the plants will have attained the height of from five to six feet, and will be furnished with branches down to the top of the pots, forming complete masses of bloom. From the diversity of their colours, they form a pleasing contrast when mixed among other plants in the conservatory or greenhouse. When a separate house can be afforded for these plants, it is desirable; but that can seldom be afforded: we can, however, surround them with circumstances congenial to their growth, in those positions which we can appropriate to their use.

There are several species of Balsams in our gardens, but the gayest and best of all is *Impatiens Balsamina* (Balsamina hortensis of Desfontaines). There are others, such as I. Noli-me-tangere, I. coccinea, I. biflora, and some more recent introductions from India: the first of these is found wild in our own country, and other parts of Europe; but the double Balsam of our gardens is the only one we have at present worth growing.

Balsams, as border flowers, may be showy enough in some situations, and may flower well enough in some seasons, but they are more frequently rendered unsightly by heavy rains and cutting winds. My opinion is, that our common garden Balsam can be grown to far greater perfection than it generally attains.

Buckingham Palace Gardens, October 31. 1844.

[Balsamina hortensis is doubtless the best of this family for cultivating as a tender annual; but several of the half hardy species, introduced within the last few years from the northern provinces of India, are certainly highly deserving of cultivation in the flower-garden. Probably Mr. Watt means that the double Balsam is the only one adapted for being grown within-doors. T. M.]

VEGETABLE PHYSIOLOGY. — THE LEAVES OF PLANTS.

By Mr. T. Moore.

(*Continued from* Vol. V. p. 180.)

The functions of leaves are to act as organs of nutrition, for by them respiration and assimilation are carried on. They act as elaboratories, in which the crude sap impelled into them from the stem evaporates about two thirds of its water, and becomes united with the carbon of the atmosphere; and they furnish nutriment to the young fibres, which pass from them, and the buds, in the form of alburnum and liber; and also to all the parts above and beneath them. These functions and purposes of leaves are variously exemplified: thus, if a number of rings of bark are divided from each other by spaces without bark, those rings which have leaves on them will live longer than those which have none; if the leaves are stripped from a plant whilst its fruit is immature, the fruit will not ripen, but fall off; if a branch is denuded of its leaves, for a whole season, it either dies, or does not perceptibly increase in size: thus, again, if the cotyledons, or seed-leaves, are destroyed, the young plant will increase but slowly, if at all.

Leaves are most admirably adapted for the performance of their functions; they consist, as we have seen, of a thin plate of cellular tissue, pierced by air vessels and woody tissue; and this is enveloped by a hollow empty stratum of cells, forming the cuticle. Beneath the cuticle, on the upper side of the leaves, the bladders of cellular tissue are compactly arranged, perpendicular to the plane of the cuticle; whilst beneath the cuticle, on the lower side, they are loosely arranged: in the former case, they have but a small number of air cavities; in the latter these abound, and are in connection with the stomates. To prevent too rapid an evaporation is the ordinary office of the cuticle; whilst in cases where it is necessary to furnish the means of freely parting with superfluous moisture, it is provided for in the stomates, which act like valves, and open to permit its passage: they also seem to supply fluid, by opening to imbibe the moisture of the atmosphere. In leaves which are submersed, and where these variations, arising from atmospheric influence, cannot occur, neither cuticle nor stomates are present.

The property of giving out and imbibing fluids, which is possessed by the leaves, differs considerably with respect to quantity, in different plants: thus, some perspire considerably more than their own weight of aqueous matter, in the course of one day; whilst others, such as succulents, perspire very sparingly; and the same may be said with reference to the quantity of fluid imbibed. These variations result from the presence, or absence, and the relative sizes of the stomates, which exist in the outer covering of the leaf.

Hairs are believed to aid these functions of the leaves, by collecting humidity from the atmosphere; but whether leaves have the same power independently of hairs, is a disputed point. Some persons believe that absorption takes place from either surface of the leaf, but that some plants absorb more powerfully by one surface than by the other; others contend that the leaves themselves do not possess any power of attracting fluids. Considering the permeability of vegetable tissue, and the thinness of the cuticle, it seems hardly to admit of doubt that they do possess some power of absorption ; and this is apparently borne out by the effects produced in hot weather, either by a shower, or by the imitation of one in syringing the exhausted and drooping plants in a hothouse.

The leaves have a peculiar power of producing chemical changes on the air. It may not be here out of place to remind you, that the air we breathe consists principally of two invisible gases, which are called oxygen and nitrogen; the former, though too powerful to be breathed in a pure state, is yet that principle by which life is supported ; the latter is in itself destructive of life, and seems employed to moderate the effects of oxygen. When we breathe, the oxygen is separated from the nitrogen, in passing through the lungs, and then becomes united with another body supplied by the decomposition or combustion of food, called carbon; by that union, the respired oxygen is converted into carbonic acid, which latter compound is injurious to animal life. Thus, we perceive that animal respiration vitiates the atmosphere ; but plants, when under the influence of light, decompose the carbonic acid ; they absorb the carbon, and give out again the oxygen, and by this means the equilibrium is maintained. It must be recollected, that this action is almost exclusively confined to the green parts of plants ; the flowers, and fruits, and even stems, being continually engaged in converting the oxygen into carbonic acid. This explains the cause of the unhealthiness attributed to cut flowers, when introduced into rooms, especially sleeping-rooms, the effects of which are most powerful at night, in the absence of light, when the purifying process carried on by plants becomes reversed. The importance of solar light to plants, which it is desired to maintain in a healthy condition, thus becomes evident, since it is by its influence that the decomposition of carbonic acid, and of water, and the extrication of the nitrogen of the atmosphere, are effected. Perspiration, also, is principally excited by the action of the solar rays, and becomes suspended during the night, or when light is withheld; the green colour in leaves is dependent on the influence of light, and becomes intense in proportion to the degree of exposure to it, within certain limits, which vary according to the natural condition of the plants; in total and long continued darkness leaves lose the green colour altogether, and become blanched and etiolated.

The food taken up by the rootlets is gradually conveyed upwards through the stem to the leaves, and there becomes decomposed and assimilated; probably some alteration takes place during its passage through the stem, such as parting with a portion of its water, and fixing carbon among the tissue: certainly when it reaches the leaves, it is by no means in the condition in which it entered the roots, but becomes altered in its nature and specific gravity, by taking up what soluble matter it meets with in its progress. The changes produced by the exposure of the vegetable fluid in the leaves are principally the decomposition of carbonic acid, the abstraction of superfluous water by perspiration, and the assimilation of the various remaining matters. Light, and the atmospheric dryness which generally results from its presence, are believed to be the causes which produce these several actions: light is, however, believed to be the remote, rather than the direct cause of perspiration, which is induced by the dryness produced by means of the heating and rarification of the atmosphere when solar light is applied; this is apparently illustrated by the fact that plants or flowers when exposed to the dry air of a sitting room, though imperfectly illuminated, are found to perspire so much more than when in the open air, and exposed to direct light, that in such situations it is next to impossible to keep many kinds alive: light is, however, to all appearance the exclusive cause of the decomposition of carbonic acid.

(To be continued.)

LIST OF NEW PLANTS.

VACCINACEÆ. — *Decandria Monogynia.*

Gaylussacia Pseudo-Vaccinium. The genus Gaylussacia, so named after M. Gay Lussac, the eminent French chemist and philosopher, differs from Vaccinium in the same way as Arctostaphylos from Arbutus — it has but a single seed in each cell. The species are found chiefly in Brazil, where they are common, Peru, and the North of India; and among them are several which, as this species shows, would be worth introducing to cultivation. *G. Pseudo-Vaccinium* is a hardy and very pretty greenhouse shrub, which should be grown in a mixture of sandy peat and leaf mould, and treated in the same way as Cape heaths. The flowers appear to be abundantly produced, of a pleasing deep pink. — *Bot. Reg.* 62.

ORCHIDACEÆ. — *Gynandria Monandria.*

Anguloa Clowesii. Among a lot of plants collected in Columbia by Mr. Linden in 1842, this fine thing was received by the Rev. J. Clowes, of Manchester, with whom it flowered, for the first time in Europe, in March, 1844.

The genus Anguloa approaches so nearly in structure to Lycaste as to render it a matter of some difficulty to properly distinguish the separation: one peculiarity, the funnel-shaped condition of the middle lobe of the lip, at first sight seems to belong only to Anguloa, but it is in reality only an exaggerated condition of that kind of lip which we have in *L. aromatica* and its allies, in which there is a large flat appendage resting on the surface of the lip: the chief difference consists in that appendage being attached to the lip at the base only; while in Anguloa it is united by the sides also. The main difference, however, between Anguloa and Lycaste consists in this, that in Lycaste the lateral sepals are placed edge to edge in the manner of a true Maxillaria, but in Anguloa they overlap each other very considerably.

The flowers of this species are large and showy, of a bright lemon-colour, with a white lip; they are produced from the base of the pseudo-bulb, singly on a foot stalk, rising about nine inches in height, a strong bulb frequently throwing up four or five of these flowers. —*Bot. Reg.* 63.

AMARYLLIDACEÆ. — *Hexandria Monogynia.*

Ixiolirion montanum. — This long desired and very ornamental plant was sent to Spofforth by the kindness of J. Cartwright, Esq. He received it at Constantinople from Colonel Shiel, who discovered it in the neighbourhood of Teheran. The bulbs are very remarkable-looking, rather like large nuts, with a dark chocolate-coloured smooth coat. The plants are perfectly hardy, producing their beautiful lilac flowers freely in May and June. — *Bot. Reg.* 66.

TREMANDRACEÆ. — *Octo-Decandria Monogynia.*

Tetratheca hirsuta, syn. *Tremandra Hugelii.* Messrs. Rollisson received this plant from Baron Hugel in the summer of 1843, and flowered it last March. It is a very nice greenhouse plant, gay with purple starry flowers, requiring the treatment usual for Australian plants. — *Bot. Reg.* 67.

GESNERIACEÆ. — *Didynamia Angiospermia.*

Achimenes picta. One of the splendid plants introduced by the Horticultural Society of London from Mexico, and now, from its dispersion by that useful body, among the greatest ornaments of our stoves during the autumnal and early winter months.

Nothing can exceed the beauty of the foliage, whether we consider the velvety and orange hue of the pubescence or the rich deep green of the groundwork, as contrasted with the milk-like spots and reticulations. Nor are the flowers wanting in charms; they are copious, though solitary, from the axils of all the upper leaves, yellow, gorgeously tinged and spotted with red. — *Bot. Mag.* 4126.

PLUMBAGINEÆ. — *Pentandria Pentagynia.*

Armeria cephalotes. This fine and most desirable plant has lately been brought into notice as something altogether new to our gardens (under the name of Statice Pseudo-Armeria). But though perhaps long lost to our collections, it was introduced to the Royal Gardens of Kew so long ago as the year 1775, by J. N. de Jacquin; and was probably, previously to that time, detected at Algarbia in Portugal, by Masson, while collecting for his Majesty George III. It is probably not hardy enough to bear the open border, but in a cool greenhouse few plants make a more striking appearance, flowering in August and September. — *Bot. Mag.* 4128.

TERNSTRŒMIACEÆ. — *Polyandria Pentagynia.*

Laplacea semiserrata. A native of various parts of Brazil, where, according to Martius, it forms a tree thirty or forty feet in height. Whatever may be its size in its native country, it is quite certain that in our stoves it flowers readily in the autumn, when not more than a foot high, and recommends itself by its handsome tea-like ever-green foliage, even more than by its large delicate white flowers. Mr. Gardner gathered it in Goyaz. — *Bot. Mag.* 4129.

ORCHIDACEÆ. — *Gynandria Monandria.*

Oncidium tricolor. A very beautiful and entirely new species, with foliage resembling that of *O. triquetrum*, but very different in the flowers, both as to form and colouring, being elegantly varied with white and yellow, and blotched with blood-coloured spots. It was sent to the Royal Botanic Gardens of Kew in 1843, by their collector, Mr. Purdie, from Jamaica, and blossomed freely attached to a piece of wood in March and April of the following year. — *Bot. Mag.* 4130.

BEGONIACEÆ. — *Monœcia Polyandria.*

Begonia rubricaulis. It is to be regretted that so many members of this highly ornamental genus of plants are introduced to our gardens without any record of their native countries; such is the case with the present species. The appellation given it by Sir W. J. Hooker is significant of the fine red colour of the flower-stalks, which, together with the glossy leaves and large rose-coloured and white flowers, renders the species peculiarly worthy of cultivation. It is in perfection during the summer and autumnal months. — *Bot. Mag.* 4131.

LYTHRACEÆ. — *Dodecandria Monogynia.*

Cuphea strigulosa. This is one of those plants which, though usually considered to require stove treatment, on experiment are found to succeed far better when grown in a cooler situation. *Cuphea strigulosa* in a stove is remarkable for its numerous airy-looking flower-bearing ramifications; yet the flowers individually are entirely devoid of interest, being of a pale greenish-yellow hue. But when grown in the open air this colour is heightened to a bright yellow, variegated with red; it is then, although not equal to some of the showy members of the genus, a very interesting species. It grows wild at the foot of the Andes, near Ibague, and has only recently been introduced to this country through the Continental nurseries. — *Pax. Mag. Bot.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Epidendrum machrochilum roseum. One of the most showy species of *Epidendra* that we possess is undoubtedly *E. macrochilum.* The large expansive white lip of the flower, so richly spotted with crimson in the centre, is especially interesting amongst the crowd of dingy bronzed flowers so numerous and common in the genus. Within the last two years several varieties of this superior species, with rose-coloured blossoms of various shades, and with a slight dissimilarity in form, have been received through different channels from Guatemala. The present one was flowered by Mr. Carson, in the collection of—— Farmer, Esq., of Nonsuch Park, near Cheam, Surrey. It is chiefly remarkable among other rose-coloured varieties in the form of the lip, which, instead of being saddle-shaped by the usual deflexure of the sides, is perfectly flat, exposing the entire surface to view. — *Pax. Mag. Bot.*

TRIDACEÆ. — *Triandria Monogynia.*

Orthrosanthes multiflora. The earliest specimens of this interesting little plant known in this country were raised from seeds collected near Lucky Bay, in New Holland, by Mr. W. Baxter, about the year 1820. It does not appear to be yet very widely disseminated; certainly not to that extent to which its worth entitles it. The plant is a close-tufted, herbaceous, half-hardy perennial, rising to about a foot in height; and the inflorescence is just elevated to about the level of the tips of the leaves; it is borne on a spike, having several spathes. The flowers are brilliant azure blue; they are developed one at a time from each spathe; and as they are of considerable size, and the sheaths numerous, they make a good show. The flowers, however, do not remain expanded the whole day; they open early in the morning, and sometimes close soon after mid-day, but more commonly remain unfolded until three or four o'clock; the same blossom re-opens for several successive days, and there is always another ready to display itself as the first dies, till the whole have expanded.

An open loam and well-reduced leaf mould make an excellent compost for it; and it may be preserved through the winter in frames with the greatest ease; and when continued in such structures (kept rather close) till it flowers, it acquires a degree of vigour and health unknown even to the plants allowed to remain constantly in the greenhouse. —*Pax. Mag. Bot.*

LABIATÆ. — *Diandria Monogynia.*

Salvia strictiflora. A shrubby species, with bright vermilion flowers, from Peru; it has been known in England for some years, but is somewhat scarce. It is a rapid grower, but does not usually flower freely. — *Pax. Mag. Bot.*

LIST OF ORCHIDEÆ.

(*Continued from* Vol. V. p. 225.)

255. *Oncidium Cavendishianum.* Plant destitute of bulbs; leaves 1 foot long, and 6 inches broad; flower-spike, produced from the base, 4 feet long, and branched towards the summit; the sepals and petals are pale green, and blotched with brown; column yellow; labellum yellow. This species requires pot cultivation, with a free drainage, and a compost of turfy peat and sphagnum chopped together and mixed with small potsherds; it requires but little water while growing, and scarcely any while at rest; temperature during the first 65°, and the latter 55°. — *Native of Guatemala.*

256. *Oncidium Cavendishianum var. pendulum.* This species is so similar in growth to the other as not to admit of a description; the flowers are much the same, only produced on a pendent spike; and it requires the same treatment and temperature. — *Native of Guatemala.*

257. *Oncidium bicallosum.* Plant similar in growth to the above, though not so strong; flower spike 1 foot long, half pendent, producing from 16 to 20 flowers, each of which is nearly 2 inches in diameter; sepals and petals yellow, having a slight tinge of crimson round the margin, and undulated; the column is of a deeper yellow; labellum yellow also, and two-lobed, with a pair of distinct tubercles for its crest, these being separated by a considerable space. It may be grown either on a billet of wood covered with sphagnum, or in a pot with a good drainage, and a compost of turfy peat, sphagnum, and small potsherds; it does not require much water during any stage of growth. — *Native of Guatemala.*

258. *Oncidium Lanceanum.* Plant destitute of bulbs; leaves 18 inches long, and 8 inches broad, green, slightly spotted with purple; flower spike 3 feet long; the sepals and petals of the flowers are pale green, blotched with purplish brown; the helmet of the column a rich purple; labellum bright violet at the edge, the crest being of a deep purple. The plant is usually found in its native country flourishing on the Tamarind, Calabash, or Sapadilla. — *Native of Surinam.*

259. *Oncidium carthaginiense.* Plant destitute of bulbs; leaves 18 inches long, and 6 inches broad; flower spike 6 feet long, and branched; sepals and petals green, spotted with dark brown; the labellum of a dull green, requiring the same treatment and temperature as O. Cavendishianum.—*Native of the West Indies.*

260. *Oncidium luridum.* This species is very similar to the last, except that its leaves are a little spotted, which is not the case with the other. The sepals and petals are green, spotted with brown; labellum of a more lurid green. It requires the same treatment and temperature as recommended for the others. — *Native of Trinidad.*

261. *Oncidium luridum var. guttatum.* This is a handsome variety with the habit of the species. The sepals and petals are orange-coloured, spotted with dark brown; labellum brownish yellow. — *Native of Jamaica.*

262. *Oncidium luridum var. guttatum olivaceum.* This is another handsome variety, and worth cultivation, the ground colour of the flowers being olive. The same treatment and temperature as for the others will do for this. — *Native of Jamaica.*

263. *Oncidium roseum.* Plant destitute of bulbs; leaves 1 foot long, and 6 inches broad; flower spike 5 feet long, and branched; sepals and petals pale brown, spotted with darker brown; labellum rose-coloured. This species also requires the same treatment and temperature as the others. —*Native of Mexico.*

264. *Oncidium sanguineum.* Plant similar in growth to the last; flower spike 6 feet long, and branched; the flowers are more of a rose colour than of a blood red, which its name would imply. It does not differ in regard to treatment and temperature from the others. — *Native of La Guayra.*

265. *Oncidium Henchmannii.* This species is of the same habit of growth as *O. roseum*, the flowers being more of a violet or rose-colour than the one just mentioned; the treatment and temperature being the same. — *Native of Mexico.*

266. *Oncidium altissimum.* Plant pseudo-bulbous; bulbs nearly 6 inches long, and 3 inches wide, rather flat, and slightly furrowed; leaves in pairs 18 inches long, and 2 inches broad; flower spike 12 feet long, branched nearly all the way; sepals and petals green, spotted with brown; labellum pure yellow, requiring pot cultivation in a mixture of turfy peat and potsherds, with a free supply of water while growing; temperature 70°.—*Native of the West Indies.*

267. *Oncidium Bauerii.* Plant pseudo-bulbous. The leaves of this species are more obtuse at the apex than those of the last mentioned, and the pseudo-bulbs are more lengthened; the flowers are of the same colour, except that the labellum is of a brighter yellow. It requires the same treatment and temperature. — *Native of South America.*

268. *Oncidium pubes.* A pretty little pseudo-bulbous plant; bulbs 2 inches long; the leaves are produced single; flowers produced on a short spike; sepals and petals brown, spotted with red; labellum yellowish brown, requiring pot cultivation, and the same temperature as the others. — *Native of Brazil.*

J. Henshall.

(*To be continued.*)

CALENDAR FOR JANUARY.

As a slight notice of the indigenous vegetation of the British Islands can hardly be considered to be misplaced in a calendar like this, it is proposed to offer a few observations on the progressive appearance of our wild flowers. Such a subject, it is presumed, is of sufficient interest to merit a brief monthly notice.

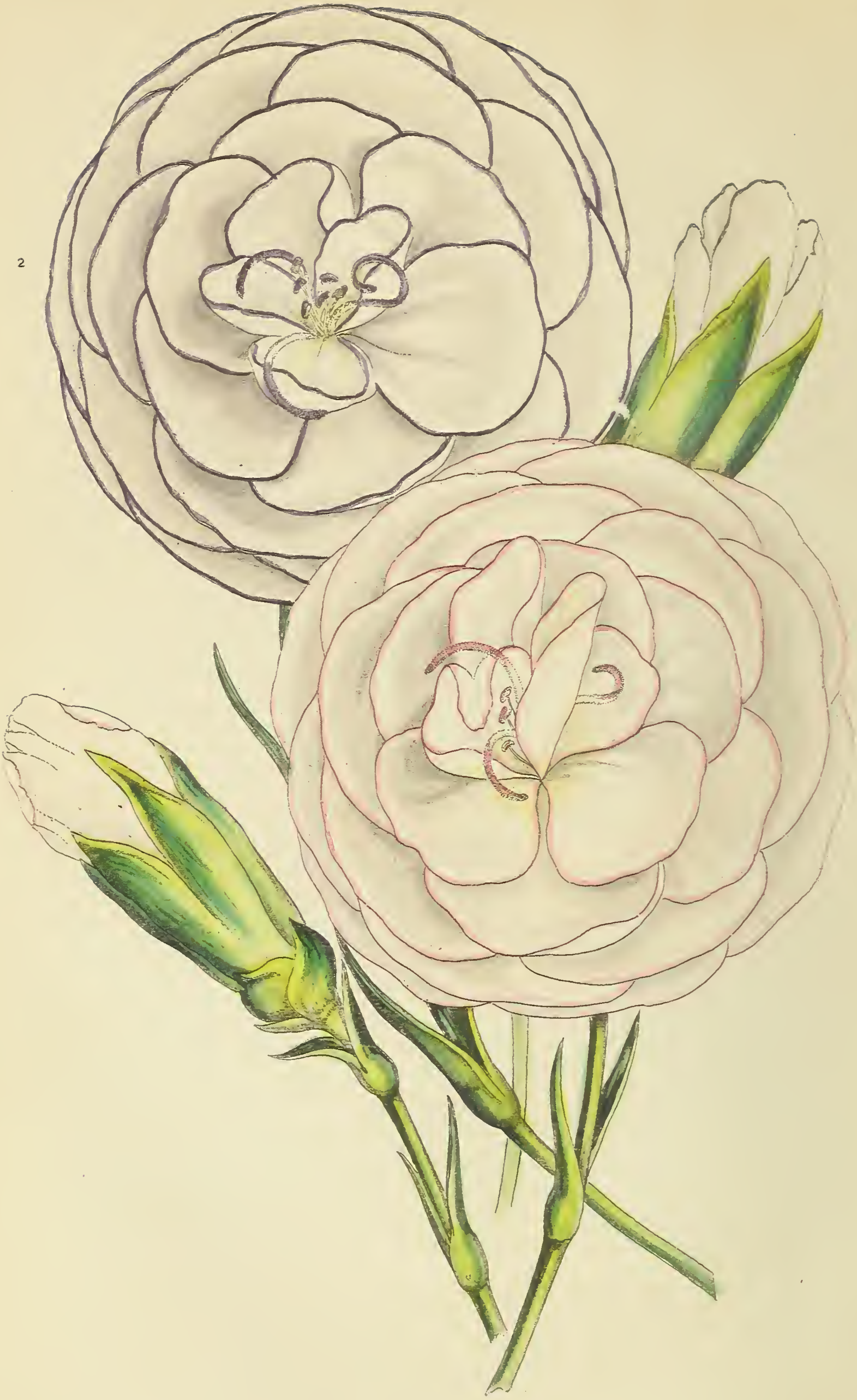
At this dreary season of the year, a superficial observer would find but little in the fields and woods to attract his attention; but the more ardent enquirer into the secret ways of nature will find that much is to be observed, which will amply repay the time consumed in its investigation, by adding greatly to his store of facts, and by proving an incentive to still closer observation as the season advances, and the objects multiply. Few as are now the subjects in a perfect state, still some of the mosses, and other cryptogamic plants, will be found in fruit in fine open weather; the singular and often beautiful construction of these will merit examination. But perhaps among the most singular circumstances worthy of notice now are the curious bulb-like forms which several of our wild, fibrous-rooted herbaceous plants assume in winter: these *hybernacula* are composed of fleshy scales in the beautiful *Parnassia*, and in the butterworts (*Pinguicula*); whilst in the bird's-eye Primrose (*Primula farinosa*), a mealy close-pressed ball of small leaves is formed in a similar manner. The affinity of these curious bodies with bulbs and tubers is sufficiently evident.

In the FLOWER-GARDEN little can be done, except in maintaining a thorough neatness, a point which cannot be neglected with impunity at any season. If the beds are filled with evergreens in the manner which has been recommended, either cut or in pots, the same neatness must be aimed at, or the garden will look worse when filled by such means than if the beds were empty, and merely raked smooth.

The GREENHOUSE, at this season the most interesting part of the garden, requires particular attention as regards temperature and moisture. Any excess of either will be highly detrimental: a temperature ranging between 40° and 50° is the most desirable; but moisture must be very sparingly applied, as it is always observed that a damp greenhouse is adapted to comparatively few species of plants. The admission of air should always be liberal, whenever external circumstances allow, care being taken to maintain the average temperature of the house, by the application of fire-heat, if necessary. The modification of these directions, to the safe keeping of plants in pits or other structures will be easy to the merest tyro.

In the management of the STOVE the above hints must not be lost sight of; for although a greater heat must be maintained (from a minimum of 50° by night to a maximum of 65° by day), still this temperature is not sufficient to allow a very free use of water, without the risk of bad consequences. Even the orchidaceous house, in which moisture may be most freely applied, must now be kept comparatively dry; and if any of the plants should commence growing, they must be moved to the warmest and dampest part of the house, thus giving them individually all the assistance compatible with the health of the collection, as a whole. For, it should be borne in mind, that orchidaceous plants in their native habitats generally make their growth in the wet season, and flower in the drier periods of the year, when the greater heat and dryness are more favourable to the ripening and dispersion of their seeds.

D. M.



1. LADY ALICE PEEL — 2 DUKE OF NEWCASTLE.

[illegible]

THE
FLORIST'S JOURNAL.

February, 1845.

ON PICOTEES.

WITH AN ENGRAVING OF BURROUGHS'S LADY ALICE PEEL AND DUKE OF NEWCASTLE.

We have this month the pleasure of introducing to our readers two flowers, the property of Messrs. Youell, nurserymen, of Great Yarmouth, which, if they do not quite realise our ideas of perfection, have at least sufficient claims on the score of usefulness, to render them desirable in all collections.

No. 1., *Lady Alice Peel,* has been grown and exhibited near the metropolis, through the past season, by a few of the principal growers, and has been pretty generally admitted to be an acquisition; for, notwithstanding the great difference that exists in the estimation of a flower between the Northern judges and those of the South, the scarcity of good kinds in the rose-edged class is sufficient to insure a more favourable reception than would be awarded even to the same flower, if of any other colour: thus this variety, though not without its faults, must be grown till a better is produced, because it is what the florist terms a *useful* flower.

No. 2., *Duke of Newcastle,* is a light-edged purple, possessed of a finely formed petal, clear distinct margin, and of considerable substance.

Both of these are of greater depth and fulness than is usual with Northern varieties: they are seedlings of 1844, raised by the Rev. J. Burroughs, of Lingwood Lodge, Norfolk; a gentleman who gives promise to rank among the foremost of

Picotee and Carnation cultivators. Perhaps never before was so much encouragement held out for the improvement of the Picotee as is apparent at the present time, certainly never in so judicious a manner; and we are pleased to see that dealers are becoming more alive to their own true interests. Instead of, as used to be the practice, first supplying the amateur with a small collection, who buys for the pleasure of a little friendly rivalry with his compeers, and, in nearly all cases, expends on the improvement and enlargement of his stock three times the value of any prizes he may obtain; instead of raising false expectations, and then damping the ardour of the beginner by competing with, and, of course, from the difference in numbers, beating him in all his attempts; the dealer, forsaking that reprehensible practice, now finds it far more advisable to give rather than receive prizes. The inducement of a silver cup few can withstand; and the grower who liberally offers it is as liberally rewarded, by the increase of orders received from those who otherwise become disgusted with a pursuit in which they meet with no success.

To all who grow or admire these flowers, the ensuing season promises to be one of no ordinary interest; we hear of exhibitions to be held in all quarters, and arranged to suit all competitors. Besides the principal metropolitan show of the South London Floricultural Society, there is promised an increase in the prizes at Chiswick and the Regent's Park meetings; and there are also, at least, a dozen other smaller societies located on all sides of town, to mention which and the provincial meetings talked of, is impossible, for their name is Legion. The best of the latter, in all probability, will be, that at the Coppice near Nottingham, and the proposed new one at Salisbury. "May we be there to see!"—Ed.

A FEW HOMELY REMARKS ON OUR HOME FLOWERS.

Without presuming to dictate what shall be admitted into, or rejected from general estimation, may I be allowed to offer a few remarks on behalf of some very humble favourites of mine, our native orchidaceous plants.

At the present time, *exotic* Orchidaceæ receive a very large proportion of the favours of the horticultural world, and I must allow, deservedly. Collectors are despatched to explore unknown districts in search of novelties to enrich the collection at home, with a spirit and energy that deserves the highest commendation. May every one who undertakes the arduous task, return successful! Knowing something of the enthusiasm that is now so prevalently attached to this the exotic class of the order, I am induced to consider it as the most fitting period at which an endeavour to direct some little attention to our native kinds can be made. Often have I bent over their fragile forms, and regretted they should be left to —

"Blush unseen,
And waste their sweetness on the desert air;"

and I am positive, could your readers be induced to bestow only a small share of the attention now so liberally given to their exotic brethren, they would be found most grateful recipients. I am aware some little difficulty has been experienced in the attempts hitherto made to grow British Orchideæ; but, in this age of advancement, obstacles of this sort are regarded merely as incentives to further exertion, giving a tone to the renewed energy. Indeed, my love of these flowers makes me sanguine enough to believe, that not only may they be grown as they now are, but that, with patience and perseverance, a great improvement may be effected among them. Surely in this enlightened age, when floriculture is so rapidly advancing, it will not be admitted that these lovely things shall still live unnoticed, or that their improvement is an impossibility.

Let us think of the difficulties found when the culture of the exotic species was first tried, and then turn, to view, with admiration, the splendid objects that the same class of plants now presents: or, as a still more familiar instance, look at the beautiful varieties of the Pansy which now grace our floral exhibitions; thousands of varieties of them may be found, of as many shades of colour, from the deepest and richest purple to the most delicate and pure white, of approved form and texture; and, after acknowledging their eminent claims to beauty, we must recollect (for the sake of those on whose account I write) that all these are descendants of the little, ugly, despised wild pansy. Now, if we suppose that *Orchis fusca* could be grown to double its present size (and what has been found possible in the case of the pansy may be in this), I know not what would equal a bed of it. *Platanthera bifolia* (the butterfly orchis) would also be a splendid object, could we introduce some gay colours into it. *Ophrys apifera* and *arachnites* command universal admiration even now; and, were they only doubled in size, the admiration might well indeed be doubled.

I am not yet in a position to explain how all this is to be effected, nor shall I attempt it, my object being to endeavour to draw attention to the subject, which, beyond question, will occupy perhaps several years to accomplish fully; but, without doubt, Mr. Thompson saved pansy seed many times before his Victoria opened her dark eye, and " beamed forth her beauty." How many Emperors, Grand Dukes, &c., have since been raised, and some of them eclipsing even that favourite, it is impossible to say; but, with so promising an instance of the reward of perseverance before us, to say nothing of that indefinable pleasure arising from the almost creative power in thus originating new and interesting forms which the vegetable kingdom holds forth to our exertions, I do hope to find very many earnestly engaged in the culture of British Orchideæ, with the determination not to give it up till they have accomplished the end in view, which will be one of the greatest triumphs in the annals of floriculture. R. KEELING.

Elham.

PREPARATION OF COMPOSTS.

I AM often requested to give information as to the treatment of some florists' flowers; but my invariable reply is, first show me your mould heaps; and it is seldom I meet with what is absolutely necessary as a foundation for success. Let me give a few general hints upon this subject. Have an out of the way airy spot, and there collect upon occasions the top spit of a turfy loam; with this mix, layer for layer, the wet litter and sweepings of the stable. Let it lie for some months, then chop it down small, and throw it into a heap. In frosty weather turn it over, and do this for a couple of years. Obtain from the cowman or the fields a load of cow-dung, and submit this to the same treatment until it becomes simple black mould. Erect in some suitable place a little shed, open back and front for the free admission and circulation of air. Fit this up with some rough bins. Fill one with the turfy loam and dung when well amalgamated, as directed above—another with the old cow dung,—another with some good peat, not obtained any where or any how, but well selected, from its containing abundance of vegetable fibre. Now, here are the foundations for compost to grow any thing in. Some will say I have omitted leaf mould. Much as it will surprise many to hear it, I have no hesitation in saying I dislike it. I have always found it at every age the home of grubs and their larvæ, and I never find the plants root in it as well as in a proportion of such peat as above-mentioned. Let no one be deterred by imagining that the above arrangements will involve much expense, or be offensive to the eye of neatness. A few rough fir-poles will form the shed, and a very little contrivance will make it ornamental as well as useful,—covered, as it may be, by a honey-suckle or rose. When once a stock is obtained the florist will be sure to have his bins replenished as they are exhausted; and no one that knows the comfort and advantage of having a variety of soils ready for mixing for immediate use would give up the plan. I should add that a stock of the sharpest, cleanest silver sand that can be obtained should be at hand, and if kept covered over so much the better, especially if the spot be frequented by cats.

E. Beck.

Isleworth.

Horticultural Essays,

By the Members of the Regent's Park Gardeners' Society.

VEGETABLE PHYSIOLOGY.—THE LEAVES OF PLANTS.

By Mr. T. Moore.

(*Continued from* p. 14.)

The life of vegetables seems to consist in a successive diurnal decomposition and recomposition of carbonic acid. During the night they vitiate the air by robbing it of its oxygen; by day they purify it, by restoring to it a new supply. It is an interesting question, whether or not this alternation leaves the atmosphere nearly in a state of equilibrium, or whether the proportion of oxygen becomes gradually increased; that it does so is a prevailing opinion: in primæval ages it is conjectured that carbonic acid was present in excess, and that the action of vegetation has wrought the change we now perceive; and if this be true, we can scarcely doubt but that the same causes and influences are in constant operation. When we consider the great loss of oxygen which is caused by the respiration of animals, and by its combination with various mineral matters, it would seem almost incredible but that the air should in time become so far deprived of oxygen as to be unfit for the maintenance of animal life, were we not to look for some ceaseless compensating action; and by various experiments which have been made, it appears evident that the power of thus acting does reside in the vegetable kingdom.

Taking this view, plants may be regarded as a special provision of Creative Wisdom, by whose means the consumption of that which would render the world uninhabitable to man and the inferior creatures is secured; and at the same time we may perceive that they have been so beautifully contrived, that *their* existence could not be maintained, except by their continually abstracting from the atmosphere those elements which, if permitted to accumulate, would endanger, if not totally prevent our own.

Some leaves possess the property of moving when acted on by certain bodies, and this is termed IRRITABILITY: it may be regarded as being particularly the result of vital action, and is illustrated by the circumstance, that when a vine-leaf is suspended from a string it turns towards the light just as when on the plant. The *Mimosa sensitiva* folds up its leaves when touched. The movements in the leaves of *Dionæa muscipula*, and of the species of *Drosera;* in the capsular valves of *Impatiens;* in the column of *Stylidium;* in the anthers of *Kalmia*, and of the common barberry; and in the stigma of *Mimulus*, are some among the numerous recorded instances in which the irritability of different organs is evinced by the touch. Solar light, together with the atmosphere, also possesses great influence on the leaves of plants and their modifications, tending to induce what is called the sleep of plants; the folding of the leaflets in many plants, and the opening and shutting of the blossoms in others, are all to be referred to the action of light and of the atmosphere. This phenomenon is moreover attested by the action of poisons on vegetables, which is similar to that produced on the animal structure; this has been frequently proved by experiment.

Spontaneous movement is another kind of irritability possessed by some plants: thus, in *Megaclinium falcatum* the labellum is almost continually in motion; and a kind of convulsive action of the same part may be observed in some species of *Pterostylis;* the filaments of *Oscillatoria* are constantly writhing like worms in pain; and in *Hedysarum gyrans* the lateral leaflets are in motion both day and night, even when the terminal one is asleep: the leaves of the aspen also furnish a familiar illustration of spontaneous movement, for, by a curious formation of the petiole, they can never rest, but are in constant motion.

The fall of the leaf is a phenomenon too important to be here passed over: it is explained by De Candolle, thus:—the increase of the leaves both in width and length, that is, their full expansion, is generally a rapid process; for a time the leaves exercise their varied functions, but all this while the process of denudation is silently going on. They exhale perfectly pure water, and retain in their tissue the earthy matter carried up by the sap; and in consequence of this the vessels harden and the pores become obstructed: this goes on during the season of their growth; and according as evaporation is more or less active, so are the leaves approaching the limit of their existence: they gradually dry up and die. But this death of the leaves must not be confounded with their falling, for the two processes are distinct: the death of the leaves results from the choking up of their vessels; they then change colour, cease to decompose carbonic acid and absorb oxygen, become unhealthy, and die; but the living tissue at their base still continues to increase in size, and thus the dead or dying leaves are, as it were, forced outwards and thrown off. Du Petit Thouars gives another explanation:—"If," he says, "we watch the progress of a tree, we shall perceive that the lowest leaves fall first;" and this he explains thus:—"The base of every leaf reposes on the pith of the branch, to the sheath of which it is attached; but as the branch increases in diameter by acquiring new wood, the space between the base of each leaf and the pith becomes sensibly augmented; and, in consequence, the fibres, by which the leaves were connected with the pith, must have necessarily lengthened, in order to admit the deposition of wood between the bark and the pith: the bundle of fibres being at first composed of spiral vessels only, it is easy to conceive that they will be susceptible of elongation by unrolling: the time will however arrive, when these vessels being entirely unrolled, are incapable of further elongation; and they will therefore, by the force of vegetation, be stretched until they snap: when this takes place, the communication between the branch and the leaves will be destroyed, and they will necessarily fall off." It seems, after all, most probable that it is to a combination of both these supposed causes, that we are to attribute the effects which are manifest in the phenomenon of the fall of the leaf.

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PRIZE ESSAY.

ON THE CULTURE AND FORCING OF ASPARAGUS.

By Mr. J. Davison, Gardener to Sir J. Guest, Bart.,
Dowlais, Glamorganshire.

Among the many plants grown for culinary purposes Asparagus ranks as one of the first: it is not only valued as an early vegetable, but is highly prized on account of its nutritious qualities. It is hailed with pleasure when it makes its first appearance at table; and it is welcomed by the gardener as being his first spring crop. Through the many improvements that have arisen, and are still springing up, in the science of gardening, asparagus is looked on as a winter as well as spring vegetable. To grow it for the table in winter it must be accelerated by artificial means; and in bringing my plan before you, I do not boast of having any thing new to offer: it is the result of practice and experience alone that I lay before you, and I am convinced that if the directions are carefully attended to, they will yield the most satisfactory results.

The cultivated asparagus is the *Asparagus officinalis* of Lin-
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næus. It belongs to the Linnæan class and order *Hexandria Monogynia*, and to the natural order *Asphodelæ.* It is indigenous to Britain, and is found on gravelly or sandy soil, situated near the sea. It is also common on the shores of the north of Europe; and in the south of Russia and Poland it is eaten by the cattle as grass. Like many other of our vegetables it has a very different appearance when cultivated from what it has when seen in its wild state. It has been in cultivation for an unknown period, not in Britain only, but over the continent of Europe, and in many parts of America.

The sort of asparagus at present most generally grown is known under the name of the *Giant;* but whether this is a variety or sub-variety of some other kind, or has been so named from having been grown in a situation favourable to excessive growth, I am not positively prepared to state. I think, in common with all the other so-called varieties, enumerated in the seed catalogues, it has originated under the latter circumstances.

PROPAGATION BY SEEDS.—Where a great quantity of asparagus is forced, it is requisite that there should be sowings and plantations made annually. The ground where the seed is to be sown should be in an open situation, and the soil of a light description, well enriched with some vegetable matter; and if sandy, so much the better. The seed should be sown in drills, at such distance apart that the roots of the plants in one row will not get intermixed with those of the others: the seed should be covered to the depth of one and a half or two inches. I recommend the month of April as the time of sowing; but the earliness or lateness of the season is in this, as in many other things, a good instructor. The reason why I recommend the seed to be sown in drills is, that it is preferable to its being sown otherwise, for the plants can be much more easily lifted, and with less damage done to the roots. The only care seedling asparagus requires during its first summer's growth is to keep it free from weeds; and when its growth is matured and well ripened, to cut it over close to the earth, and cover the drills with decayed leaves or other vegetable matter. In this state the plants must remain till the following spring: if then wanted for planting, the covering must be taken from them, and the plants carefully lifted; if not wanted till they are two years old, they must remain where they are; and after the covering is removed let there be a little fine soil thrown on the top of each drill and gently raked over: this will protect the crown of the roots from the strong heat of the sun. Care must be taken when removing the covering not to damage the crown of the roots.

CULTIVATION.—*Situation and Soil.* The situation for growing asparagus must be of a light, dry, and airy description, and such that the sun may act upon it with all its influence. Seeing what its natural situation is, it would be at once obvious that it should have a light soil, affording little resistance either to the emission of roots or the protrusion of its stems: the soil should also be capable of both receiving and parting with water readily: rich, light, turfy soil, that would readily break or fall to pieces, is the best for such purposes; but it must have been cut at least one year before it is wanted for use, and it must also be well enriched with thoroughly decomposed horse or pig manure. I recommend the latter, it being a much stronger manure; and the asparagus plant being a gross feeder it will derive more nourishment from it than it would do from a manure of less powerful qualities. Bones have by some been recommended as a manure for asparagus, and in some situations there is not the smallest doubt but they would be highly beneficial; but never having seen them tried, I am not prepared to say they are good for the purpose mentioned.

Such a soil as that I have been describing is not always to be procured, and the asparagus must then be planted in what the garden affords. In such cases the ground must be trenched to the depth of two feet and a half; and at the same time a sufficient quantity of manure should be added to make the ground very rich. If the ground should have been long under crop, the addition of a small quantity of fresh turf, if it can be procured, will be highly advantageous. If the soil should be of a strong clayey description I would recommend to add to it at the time of trenching either sand, lime rubbish, or lime siftings; either of which will have the effect of keeping the soil open, and will assist it very much in parting with superfluous water: in all soils lime will be found useful, as asparagus plants root very freely in it.

Attention being paid to these circumstances, asparagus is one of the easiest of all vegetables to cultivate; but no art or skill will produce precisely the soil which is most favourable to its growth. This exists naturally in the fittest of all possible states, and it is in these situations only that the plant is to be obtained in its greatest state of perfection. An eminent author has observed, that in the rich alluvial soil of Battersea, Mortlake, and other places around London, it is produced of such extraordinary size that one hundred and ten heads, in a state fit for the kitchen, have been known to weigh more than thirty-two pounds. There are those which think this gigantic asparagus to be a peculiar variety; but this is an error, for it has been ascertained that when removed to less favourable soils, it gradually loses its characteristic vigour, and degenerates into the common kind.

Of Beds and Planting. The ground having been prepared as already stated, it should be formed into beds four feet wide, leaving a space of not less than two feet between each bed for an alley: the beds thus formed out should have a strong stake put in at each corner to serve as a mark for the alleys; a small portion of soil should be thrown from the space upon the beds, and this being done, the whole should be gently trod with the feet, the beds raked over, and made as level as possible. In beds of this size, there should be three rows of plants, the outside rows being planted nine inches from the edges of the bed; when planted nearer than this, I am convinced that the roots get damaged, as they extend. I recommend plants of one or two years' growth, for planting; the latter are preferable, but the difference is but trifling: they should not, however, be older, for they are then apt to be much damaged at the roots in transplanting.

It is not requisite that I should give directions for planting, further than to state that the plants should be carefully lifted, avoiding to break the roots, and planting them again as quickly as possible; for by allowing them to become dry, much injury is done to them. The roots should be spread in each direction as much as possible, and the plants should be set in from two to three inches deep, and twelve inches apart in the row. I recommend March or April as the time for planting; but in this, as I have before stated, the season is the best guide: if the weather is dry, the plants should be watered to settle the soil about their roots. The only work subsequently required to be done is the same as that which I have directed when speaking of seedlings. From plantations thus made, a few buds may be gathered the second season after planting.

Winter Dressing. Beds planted as I have directed will not till they are two years old require manure, or other stimulating matter; and for three or four years this will not be required to a very great extent. On the other hand, beds that are older will require manure to be given them in large quantities, in order to feed and support the roots of the plant, and to maintain the strength and vigour of the stems. The season for adding manure is in the autumn, at the time when the stems and seed are ripe: the stems should be cut as closely to the ground as possible, and the beds must be forked over, and the soil taken from above the plants as closely as they will allow without damaging the crown of the roots: this soil must be put in the alleys, and the bed must then receive a good covering of well decomposed manure. And here I may suggest that in order to make the whole look neat, the manure so added should be beaten down with the back of the spade, and a little soil added to the edges of the beds, which should then be cut off straight, and the alleys between them dug, throwing the soil into a ridge: this materially assists in keeping the beds dry during the winter.

Spring Dressing. As the spring in each succeeding year advances, the asparagus beds will want looking to; the roughest of the manure added in the autumn must be removed with a rake, and the beds lightly forked over, taking care not to injure the roots, then stretch a line from stake to stake at the corners of the beds, so as to keep the edges straight, and add someof the soil from the alleys to the top of the beds; this may be done to the depth of from six to nine inches; break it fine, and make the beds as level as possible: by adding the quantity of soil mentioned the asparagus will send up much stronger stems than when a less quantity is employed. Keep the beds clear of weeds; and should the spring be very dry, a little water will be found of great benefit in assisting the development of the shoots. The whole of the stems produced should be gathered while they are required; afterwards they must be allowed to grow undisturbed. The buds are generally cut when from four to six inches in length; the method of doing which it is not necessary to describe.

Forcing. — To have this excellent vegetable in winter, recourse must be had to artificial means for accelerating its growth; and by this means we can have it from November, till it naturally comes in the open garden through the sun's influence. To have it thus is nothing new, yet there are better means for effecting this, at the present day, than those formerly known and practised.

The usual method of forcing has been with dung-beds; but now the system of forcing in pits is beginning to become general, and is in every respect much better than the former. The pits can be erected at a moderate expense; and with a trifling additional outlay we can have asparagus during the whole of the winter: and I may here mention, that a few roots of Rhubarb may be introduced, which in the winter months is always an acquisition; and for small sallading, and other things which occupy but little space, they will be found very useful. It is not necessary that these pits should be formed with more than six or eight of the ordinary-sized garden lights; and where a general succession is required, there should be two such pits in use for that purpose. They should be heated with hot-water pipes or smoke flues: hot water is the best, and by adopting it the two pits may be readily heated from one boiler, with the necessary stop-cocks. The pits should be so constructed that the plants will be near the glass, that they may enjoy the benefit of the sun when in a growing state; this is a particular point to be noticed in forcing Asparagus as well as other plants.

The roots to be forced should at least be six years old, and such that have sent up strong stems the preceding summer: the plants thus selected and intended for this purpose should either be covered with rough litter to prevent the frost entering the ground where they are; or otherwise they should be taken up, and deposited in sand, where they will not become too dry. In the pits, when prepared for them, there should be three or four inches of soil placed: the roots of the plants should as much as possible be preserved at the time of lifting, and they should be placed in the pits as level as possible: then, with a sieve, sift among the roots some fine soil, decayed tan, leaves, or any thing that is light, and will readily fall in among them; this must be done to the depth of four or five inches; then give the whole a good watering to settle the soil; close the pit, and keep it so, till vegetation commences, and then air must be admitted freely, and all the light that can possibly be secured: this materially assists in getting the buds of a fine green colour and good flavour. The temperature of the pits may range from

45° to 60° Fahrenheit; but I recommend 50° and 55° as the highest, unless it is required to provide a supply for some particular day. Where pits are heated by hot water, it is an easy matter to steam them, which is highly beneficial when the plants are in a state of vegetation. Thus managed, the plants require but little water, particularly in the winter months; but it must be borne in mind that when it is required and applied, it must be of the same temperature as the pit in which the plants are growing. Where a general succession is wanted, this method will be found to answer: a fresh plantation must, however, be made about every twelve or eighteen days. It is not necessary in forcing Asparagus, that it should have bottom heat; but where a small quantity is required, it is often forced on dung beds, and in such cases I would advise the grower to be cautious against a strong bottom heat, which, accompanied by the steam from the dung, is injurious to the plants when in a growing state. Where it is wanted, even in small quantities, I strongly recommend the frame to be placed on brickwork, with pigeon-holes in it, as recommended by M'Phail; and the bottom may be covered with slate or bricks, and thus the steam will entirely be prevented from getting among the plants. If the cultivator of Asparagus will attend to the above hints, he will find the result will give entire satisfaction,—the whole being the result of experience.

July 13*th*.

LIST OF ORCHIDEÆ.

(*Continued from* p. 19.)

269. *Oncidium deltoideum* (from the Greek *delta*, the lip being of a triangular form). Plant pseudo-bulbous; bulbs 3 inches long, of a pale green; leaves in pairs, 18 inches long, and a quarter of an inch broad; flower-spike 3 feet long, and slender; the sepals and petals yellow, with a small spot of brown in the centre of each; labellum yellow, with a blotch of brown. This species requires pot cultivation in a mixture of turfy peat, a little sphagnum, and small potsherds, and a good drainage. Water to be given, but moderately, in a temperature varying from 65° to 70°. — *Native of Peru.*

270. *Oncidium incurvum* (from the floral organs being curved backwards). Plant pseudo-bulbous; bulbs a little grooved, 3 inches long, inclosed in two pairs of leaflets; leaves in pairs, 16 inches long, and one inch broad; flower-spike 2 feet long, and branched; the sepals and petals of the flowers white, intermixed with deep lilac; column erect, white; ears small; labellum

white, with the breast blotched with deep lilac. This species requires pot cultivation in a mixture of turfy peat, sphagnum, and small potsherds, with a little elevation and a free drainage, as it requires to be freely watered during the growth; if in robust health, the temperature should range from 60° to 70°. — *Native of Mexico.*

271. *Oncidium tetrapetalum* (from *tetra*, four, and *petalon*, a petal). A most beautiful little species well deserving a place in every collection; the flowers are produced on a short spike; the sepals and petals white, spotted, streaked, and barred with brown; column white, with two large spotted ears; labellum white, with the base yellow and brown, as also in each division at the base. This species may be grown on a log of wood covered with sphagnum, or in a pot with a mixture of turfy peat, sphagnum, and small potsherds, and but a slight watering; temperature, 60° to 70°. — *Native of Jamaica and Cuba.*

272. *Oncidium iridifolium* (pigmy Oncidium). This is a very curious and extremely small species, the leaves being scarcely 1½ inch long; the flower-stem is little more than 2 inches long; the flowers small, but very neat and pretty, being about three parts of an inch across, yellow, streaked with red. This species should be grown on a log of wood covered with sphagnum. Very little water will be required, as it likes a dry situation exposed to the sun; temperature, 60° to 70°. — *Native of La Guayra.*

273. *Oncidium tricolor* (three-coloured). Plant destitute of bulbs; leaves 6 inches long, triangular shaped, with a few faint spots of red towards the base of each; flower-spike from 8 to 12 inches long, branched; the colour of the flowers beautifully varied with yellow and white, and occasionally blotched with blood-coloured spots. This species will succeed either on a log of wood or in a pot sufficiently drained, in a mixture of turfy peat, a little sphagnum, and small potsherds, at no time requiring much water, and a temperature of 65° to 70°. — *Native of Jamaica.*

274. *Oncidium pulvinatum* (cushion lip). Plant pseudo-bulbous; bulbs nearly flat, with two sharp angles; leaves 10 inches long, and 3 inches broad, crisp, erect; flower-spike 7 feet long, with numerous side branches; the sepals and petals of the flowers brownish yellow; labellum winged, yellow, spotted with pale brown. This species requires pot cultivation in the usual mixture, with a slight elevation, and a liberal supply of water during its growth; temperature, 65° to 70°. — *Native of Brazil.*

275. *Oncidium unicorne* (the breast of the labellum having only one horn). Plant pseudo-bulbous; bulbs 2 inches long, a little grooved; leaves mostly single, 6 inches long, and 1 inch broad; flower-spike from 6 to 9 inches long; flowers pale yellow, with a blotch of pale brown on the labellum. This species may be grown either on a log of wood or in a pot well drained, with the same treatment and temperature as for *O. tetrapetalum.* — *Native of Brazil.*

276. *Oncidium crispum* (curled lip). Plant pseudo-bulbous; bulbs 3 inches long, 1 inch broad; leaves in pairs, 8 inches long, and nearly 3 inches broad; flower-spike from 2 to 3 feet long; each flower is two inches across, and of a handsome dark chestnut colour; a single specimen when well grown will produce from 50 to 60 flowers. There are also two or three varieties of this species. It should be grown in a pot, well drained, with the same treatment and temperature as for *O. deltoideum.* — *Native of Brazil.*

277. *Oncidium Cebolleti.* Plant destitute of bulbs; leaves of a rush-like form, slender, and about 18 inches long; flower-spike 2 feet long; flowers yellow, slightly spotted with reddish brown; treatment and temperature the same as *O. crispum.* — *Native of Demerara.*

278. *Oncidium junceum* (rush-leaved). Plant destitute of bulbs; leaves 1 foot long; flower-spike 8 inches long; the sepals and petals small; colour

brown, veined with green; labellum large and yellow, with the breast spotted with red. This species requires the same treatment and temperature as *O. Cebolleti.—Native of Demerara.*

279. *Oncidium longifolium* (long leaved). Plant destitute of bulbs; leaves 3 feet long, rush-like; the colour of the flowers is but little different from *O. Cebolleti,* and it requires the same treatment and temperature.—*Native of Demerara.*

280. *Oncidium ascendens.* This may be considered only a mere variety of *O. Cebolleti,* with its flowers in a more dense mass; its treatment and temperature being the same.—*Native of Guatemala.*

281. *Oncidium divaricatum.* (Flowers straggling.) Plant pseudo-bulbous; bulbs much like *O. pulvinatum*; leaves thick, nearly oval, terminating with an obtuse apex; flower scape from 1 to 2 feet long; sepals and petals a fine bright yellow, coloured deeply at the base with orange red; labellum large, flat, lobed, and notched, yellow spotted with dark crimson; treatment and temperature the same as for *O. pulvinatum.—Native of Brazil.*

282. *Oncidium pulchellum* (pretty). Plant destitute of bulbs; leaves similar in form to those of *O. tricolor;* flower-spike 6 to 9 inches long; the sepals and petals pure white; column white, with a slight tinge of rose; labellum white, with a slight tinge of orange at the base. This species requires the same treatment and temperature as recommended for *O. tricolor.* — *Native of Jamaica.*

283. *Oncidium variegatum.* This species is not very showy; the raceme is terminal, and contains from 8 to 12 beautiful flowers of a greenish yellow colour, spotted with dark brown. It requires pot cultivation, with a free drainage, and a mixture of turfy peat, sphagnum, and small potsherds, with a temperature of 65° to 70°.—*Native of Guatemala.*

J. Henshall.

(*To be continued.*)

LIST OF NEW PLANTS.

Liliaceæ. — *Hexandria Monogynia.*

Lilium Thomsonianum. A native of Mussooree, one of the northern provinces of British India, where it was found by collectors employed by Dr. Wallich, who regards it as a lily. Professor Royle afterwards referred it to Fritillaria; but its floral leaves have not the honey-pore which is essential to that genus. In fact, it is far too near in structure to the common white lily to allow of its being distinguished generically. Its delicate rose-coloured flowers offer, however, a very marked feature of distinction. The character of the plant is that of a handsome half-hardy bulb, requiring the same kind of treatment and soil as Tigridias. Messrs. Loddiges flowered it in a greenhouse in April, 1844. — *Bot. Reg.* 1—45.

Epacridaceæ — *Pentandria Monogynia.*

Epacris miniata. This beautiful plant was raised from New Holland seeds by Messrs. Loddiges. It is a dense flowerer with blossoms somewhat smaller than those of *E. grandiflora*, but perhaps still more brilliant in colouring, the bright vermillion tube being so elegantly contrasted with the snow-white limb. It is probably a variety of grandiflora, and requires a similar treatment. — *Bot. Reg.* 5—45.

Oleaceæ. — *Diandria Monogynia.*

Syringa Emodi. This Himalayan lilac has been raised in the garden of the Horticultural Society, from seeds received from India. It is a fine hardy dwarf shrub attaining the height of from 3 to 5 feet, and growing freely in any good garden soil. Its flowers have much the look of Privet, and are wholly destitute of the sweet perfume of other lilacs; instead of which they have a heavy unpleasant smell: they are produced in the month of April in the open ground. One thing peculiar to this plant is the property of producing pale pustule-like callosities on the branches, which gives them a singular appearance, and the segments of the corolla have an abruptly inflexed point. — *Bot. Reg.*

NYMPHÆACEÆ. — *Polyandria Monogynia.*

Nymphæa rubra. Few, if any of the tropical kinds of the fine family of water lilies, are more specious, or admit of culture more conveniently, than *N. rubra.* The flowers certainly are a little inferior in dimensions to those of some of its congeners; but the intensity of their rich crimson-purple petals, and the smaller and less exuberant character of other parts, is more than a sufficient compensation. It is an Oriental species, existing plentifully in Hindostan, where it is found growing in pools of fresh water, and not unfrequently in gently flowing rivers.

The stem grows horizontally amongst the mud, and the leaves are elevated on long stalks so as to float on the surface of the water. The plant was introduced by Sir Joseph Banks, about the beginning of the present century. — *Pax. Mag. Bot.*

MELASTOMACEÆ. — *Decandria Monogynia.*

Pleroma petiolata. This plant is a strong-growing stove shrub, generally rising three or four feet high; the branches are well furnished with handsome foliage, of the same soft velvety character, so frequent amongst Melastomaceous plants; the flowers are large and showy, of a bright purple colour, arranged in large terminal panicles: they continue to be developed in succession for a considerable period. It was first known in Britain through plants in the Edinburgh Botanic Garden, which were procured in 1836 from the Botanic Garden of Berlin. Sir W. J. Hooker suspects it to be synonymous with *L. Maximiliana,* a native of the provinces of Saint Paulo and Saint Sebastiano, in Brazil. — *Pax. Mag. Bot.*

ORCHIDACEÆ. — *Gynandria Monandria.*

Eria vestita. A species with the habit of a Dendrobium, sprinkled over with reddish-brown hairs; both in the stems and the thick coriaceous leaves the flowers are produced on a loose raceme; the outer side of the sepals is ferruginous, and the inside and petals white: it is remarkable, but not handsome. — *Bot. Reg.* 2—45.

Epidendrum dipus. One of those innumerable species inhabiting South American forests, to the enumeration of which there seems no end. It was imported by Messrs. Loddiges from Brazil, and produced its densely clustered panicles of sweet-scented green, brown and white flowers in January. In many respects it approaches *E. nutans,* but its panicle is very much more compact; its colour is more like that of *E. paniculatum,* and the form of its lip is different, the two terminal lobes being very narrow, and bowed back, like the fore-legs of the splay-footed truffle dogs. —*Bot. Reg.* 4—45.

RUBIACEÆ. — *Pentandria Monogynia.*

Luculia Pinciana. A new and extremely beautiful species, excelling even the much-admired *L. gratissima,* both in the size and delicacy of its flowers and in their powerful, yet agreeable, fragrance. In stature and general aspect the two appear to accord, but the present has broader and shorter leaves, with much more compact (closely-placed) nerves, and the limb of the corolla has five pairs of prominent tubercles, one pair at the sinus of each lobe. The flowers are arranged in large *cymes,* at the ends of rather small leafy branches, which spreading, and, as it were, uniting, form one compound cyme, a foot or more in diameter, composed of large (and on the upper side) pure white blossoms, of the most delicious fragrance, changing, however, in age to a cream or ivory colour, tinged with blush; the outside deep blush, and the tube red.

It was raised from seeds received from Nepaul by Mr. Pince, at his nursery, Exeter, and is cultivated in the greenhouse. — *Bot. Mag.* 4132.

MYRTACEÆ. —*Icosandria Monogynia.*

Backhousia myrtifolia. This pretty greenhouse shrub, its conspicuous petaloid calycine segments giving the idea, at first sight, of large corollas to the flowers, was found by Mr. James Backhouse in the Illawara district of New South Wales. It is a plant with the general appearance of a Myrtle, bearing yellowish-white flowers, and may be treated in the same manner. — *Bot. Mag.* 4133.

MALVACEÆ. — *Monadelphia Polyandria.*

Sida graveolens. A handsome species, with soft pale-green foliage, and yellow flowers, with a deep blood-coloured eye. It is a native of the East Indies and of Jamaica, whence seeds were sent by Mr. Purdie to the Royal Gardens, Kew, which produced plants that bloomed in 1844. It bears a distant resemblance to *Abutilon striatum,* though not quite so handsome. — *Bot. Mag.* 4134.

TURNERACEÆ.—*Pentandria Trigynia.*

Turnera ulmifolia. There are in the West Indies two striking varieties of *Turnera ulmifolia;* one is already figured in the present work, under the name of *T. angustifolia.* The much finer state, and that which is considered the type of the species, is that now given, drawn from the rich collection at Syon Gardens. Its seeds were sent over by Mr. Purdie; and its very showy flowers and ample glossy foliage were in perfection in the stove, in July, 1844. It appears to be a plant well deserving of cultivation, but of short duration, requiring to be renewed from seed. It is a strong-growing, spreading plant, with herbaceous stems, having large, alternate, broadly-lanceolate, oblong leaves; these are rather flaccid and pendent: the flowers are solitary, composed of five nearly-round, spreading petals, of a full yellow, and are very showy. — *Bot. Mag.* 4137.

TO CORRESPONDENTS.

THE RANUNCULUS, *Sir John Graham.*— Since our last we have written to Mr. G. Lightbody, of Falkirk, the raiser of this flower, who, in reply, says that our correspondent "H. H. D.'s" description is correct, and that we are quite right with respect to the name; as to the derivation of it, he says, "There are three different tombstones erected over each other in the churchyard here, in memory of this hero. On the most ancient the name is "Sir John de Greame;" on the modern one "Sir John Graham."

VIOLA. — In our opinion, assisted by that of a first-rate cultivator of this favourite, the following twelve Pansies may be considered indispensable: — Cook's Alicia, Welsh's Blue Perfection, West's Conqueror, Brown's Cotherstone and Countess of Orkney, Cook's Delight, Forsyth's Dr. Horner, King's Exquisite, Thomson's Lilac Queen, Fryer's Standard, Brown's Maid of the Mill, and Thompson's Pizarro.

T. JACKSON. — It is sometimes practised by florists who desire to increase their stock unduly, but the result is generally puny, unsatisfactory plants.

A SUB. — The effect of late planting on tulips is usually a finer strain in the flower, at the expense of the root; your seedlings will probably break a year or two sooner through its adoption, but be careful of them afterwards.

CANTAB. — The article on Liliums next month.

FLORISTA. — The following Verbenas will afford a considerable diversity of colours, and are not expensive:—Boule de Feu, bright scarlet; Chandlerii, deep crimson; Walton's Emma, deep lilac; Taglioni, pink and white; Queen, pure white; Zeuxes, scarlet and white; Blue Queen, bluish lilac; Burleyana, rose; Triumphans, deep red; and Rosea alba.

If FLORA LONDINENSIS will send directions to our office, we can supply the address of a person who manufactures Wardian cases at a more reasonable rate than those mentioned by our correspondent last week.

ERRATUM. — A typographical error occurred in our last— the paper on Orchards was written by Mr. E. *Bray*, not *Brag*.

CALENDAR FOR FEBRUARY.

THE British flora affords but few flowering plants so early as this month, but on warm banks, and in other favoured spots, several of the more common weeds may be found expanding their blossoms in mild weather. As a means of obtaining an extended knowledge of the very varied forms under which vegetable vitality is developed, the botanical amateur should not fail to examine the cryptogamic plants, which are so easily met with during all periods of the year, but more particularly now, ere the sun has acquired sufficient power to dissipate the moist condition of the earth and atmosphere in which they particularly luxuriate. The various arrangement of parts in the different tribes, from the simple forms assumed by the lower genera of *Algæ* and *Fungi* to the beautiful organization of various *Jungermaniæ*, and onward still to the complex structure of the mosses, cannot fail to excite admiration, when we consider that the numberless plants in these orders are formed of cellular tissue alone.

If the weather be open the operations in the flower-garden will become numerous: thus dressing lawns, edgings, walks, &c., and the planting of hardy shrubs and herbaceous plants, preparation of borders, and other routine work, should be persevered in as far as weather will permit. A point of some importance, in consequence of the mild weather in January, will be the protection of tender roses, and various other plants, in case of a return of cold weather, or of very cutting winds. Many plants, especially many of the new species of *Pinus*, and allied genera, particularly require protection when making their first growth in spring; for although hardy enough to stand unprotected through the winter, they are very liable to sustain injury in consequence of the early period at which they commence their growth.

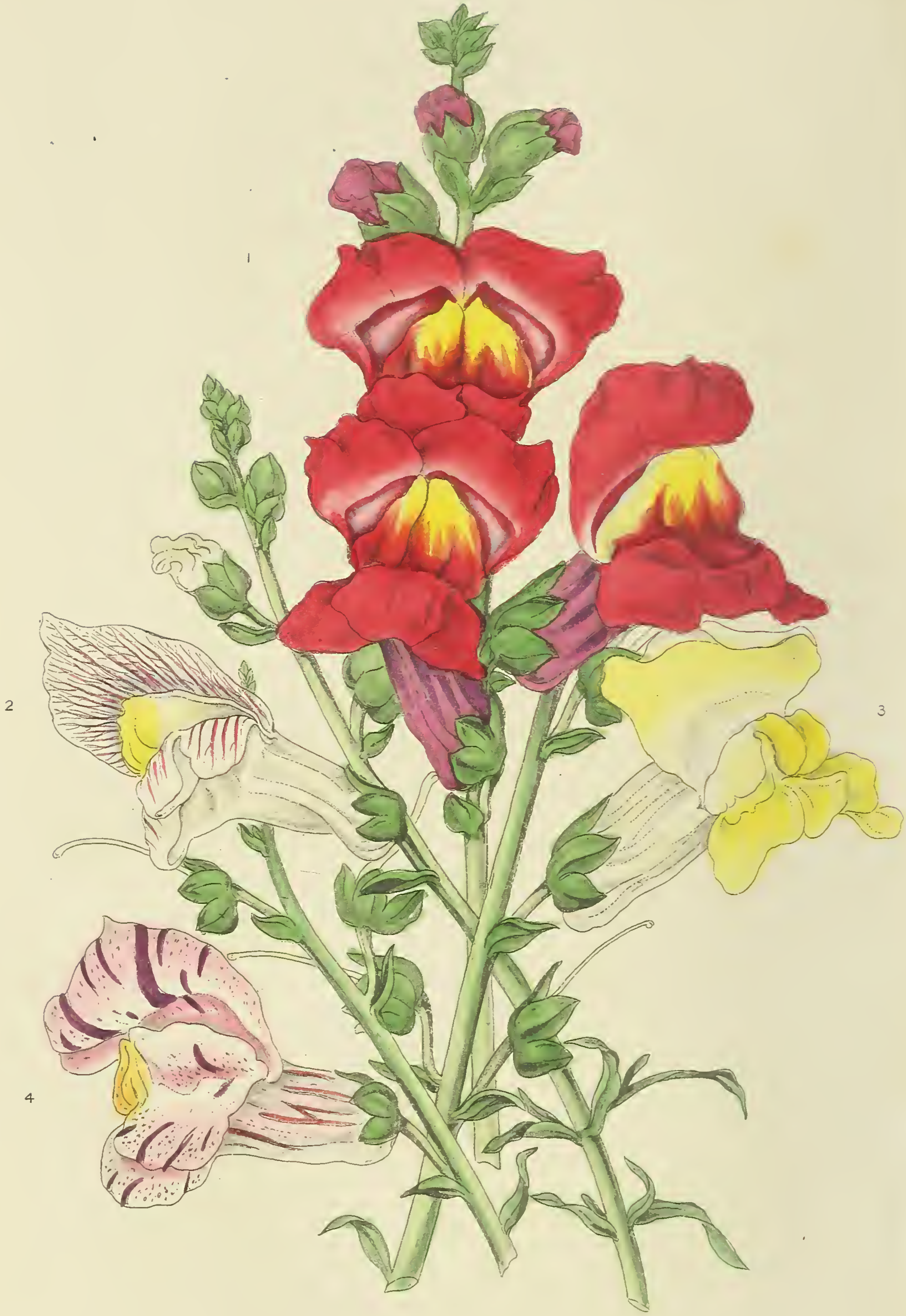
The Conservatory should receive all the air consistent with the weather outside; for as more watering will have to be done as the plants gradually develope their growth, so should all opportunities be taken to admit air to dry up any excess of moisture: this may also be occasionally assisted by fire-heat *in the day.* All plants intended for bedding out should be frequently looked over, cleaned, watered when necessary, and towards the end of the month slightly encouraged, to accelerate their growth. The temperature should average slightly above last month; but the progress of the season will be the best indicator by which to regulate the heat in plant structures of all kinds.

In the stove the temperature should be gradually raised as the plants exhibit symptoms of renewed growth; but not to an extent so great as to endanger the plants by checking their advance in case of a return of wintry weather. This must be particularly observed with Orchidaceous plants; for if the young pseudo-bulbs are once checked in their development no after management during the season will repair the injury they will sustain, and a second growth must be patiently waited for.

D. M.

Florist's Flowers.—The early part of this month is generally received as the most proper time in which to top-dress and otherwise prepare Auriculas for the approaching blooming season. To do this remove about an inch and a half of the old soil from the surface of the pots, and replace with a mixture somewhat richer than that in which they are growing; thoroughly decayed sheep or cow dung and leaf mould, in about equal quantities, is a safe and efficacious application. Night soil, blood, and other strong manures are sometimes used, but they are dangerous in the hands of the inexperienced. While going over the plants for this purpose, carefully examine the drainage of each, that there may be no impediment to the passage of water through the soil during the summer, when it becomes necessary to supply it more abundantly; and now as the flower stems are rising they must be protected from frost: cover them up carefully on every recurrence, but give plenty of air in fine weather.

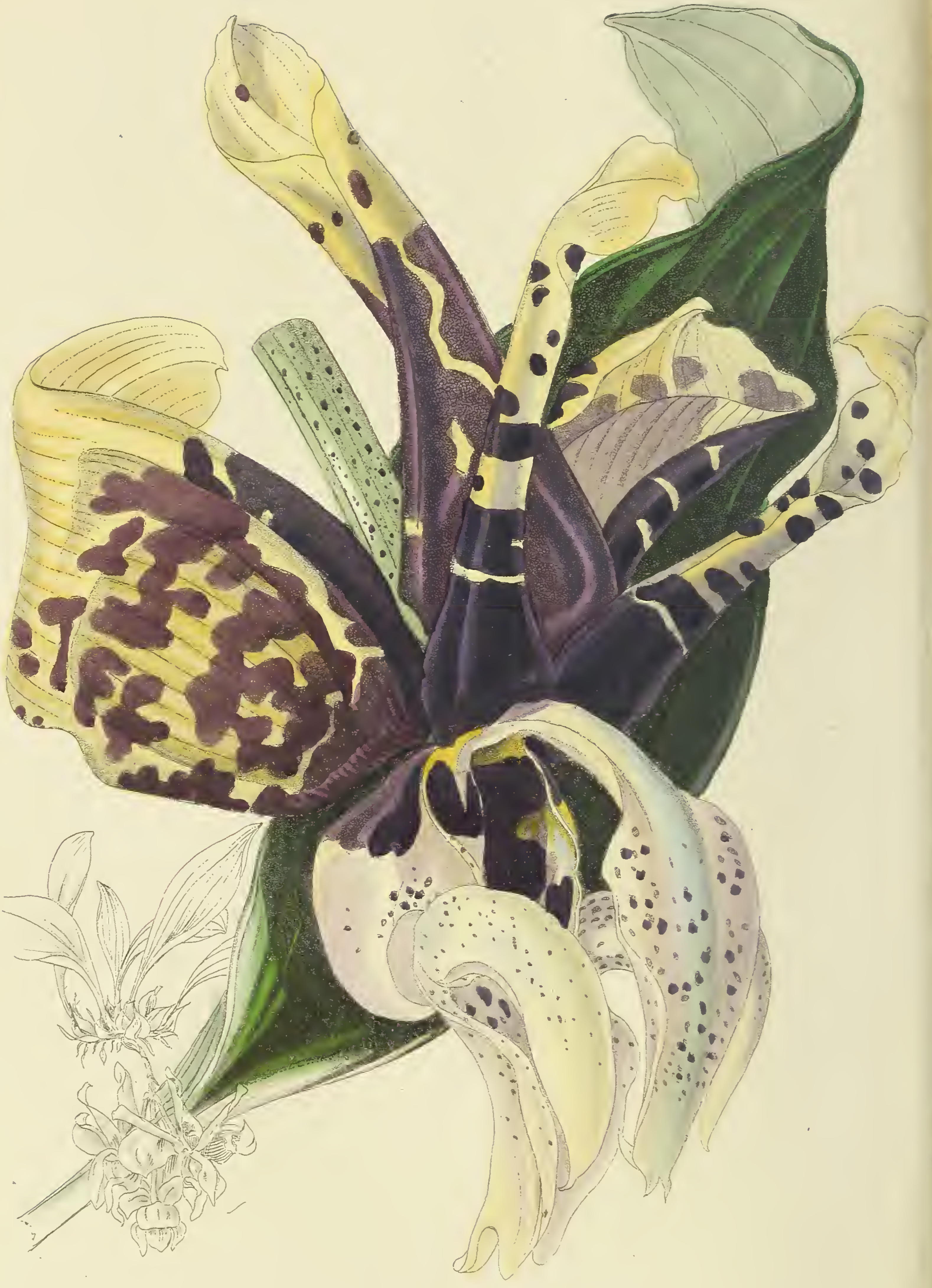
Tulips also, as they appear above ground, should have protection, and attention should be directed to the removal of cankered parts wherever and whenever they appear. Frequently turn the soil intended for Carnations and Picotees, and keep the plants free of insects by fumigation, &c.



ANTIRRHINUM

1 BRIGHTII. — 3 LUTEA.
2 VENOSA. — 4. ATROSTRIATUM.

Pub by J. Addison, for Florists Journal, March, 1846



STANHOPEA TIGRINA.

Eng.d by A.Adlard [illegible] Ma[illegible] [illegible]845.

THE

FLORIST'S JOURNAL.

MARCH, 1845.

ON ANTIRRHINUMS.

WITH AN ENGRAVING OF FOUR SEEDLING VARIETIES.

WHO that has ever enjoyed the romantic pleasure of a stroll amid the ruins of some old monastic edifice, or strayed over the grass-grown ramparts, or climbed the almost inaccessible keep of a decayed baronial residence — once the castle of some "Lawless Lord," now, like its owner, crumbling to dust — but has beheld, with mingled feelings of serious sadness and delight, the curious appearance of these plants intermixed with wall-flowers and stone-crop, jutting out from among the joints of the stoutest masonry — heightening the evidence of the instability of human efforts, by the striking contrast presented in the freshness of nature flourishing on the decay of art? Seen thus among the imposing relics of past grandeur, in a state of native wildness, the mind, for relief, is led to compare them with their own progeny when taken into the care of the culturist, and the difference visible in the two stations is most flattering to the assiduous, patient, and persevering endeavours that distinguish the latter: a brilliancy and variety of colouring, together with an increase of size and vigour both in the flowers and the plant itself, is perceptible enough to render it a matter somewhat difficult of conception to the common observer that flowers like those portrayed should spring from so diminutive a stock: yet such is their origin!

It has beyond question taken a number of years to obtain what florists term a "strain" of flowers likely to lead to great results; and in all probability *A. majus*, the largest of the indigenous species, has been the original parent of many present varieties. These, by judicious crossing and much care, have again produced other and better varieties, until now we may select a very considerable number of distinct and beautiful kinds. The value of such plants, in a gardening view, is easily conceived and generally acknowledged: they are ornaments suitable for almost every situation out of doors; the beds of the flower-garden, the borders of the shrubbery, vases, rock-work, ruins, or even old walls, may alike be made verdant at all times, and truly beautiful through the autumnal months: nor are they more particular in the choice of soil than of situation, only requiring that it be not excessively wet, and their management may be entrusted to the merest tyro with a certainty of success. There are a few of the choicer sorts that from very high breeding have engendered a somewhat delicate constitution; these require to be planted on drier soil, or to be protected from excessive cold and moisture through the winter, otherwise the majority are sufficiently robust to withstand uninjured the severest weather. They may be multiplied indefinitely by cuttings, taken from the parent plant in the beginning of autumn, choosing for the purpose shoots of a medium size; these, after trimming in the usual manner, should be planted under a hand-glass, and in three weeks they will have rooted sufficiently strong to be potted; for the first winter it will be well to preserve them in a common frame, or some may possibly be injured by frost so as to spoil their blooming, and then in spring, about the middle of March, they should be planted into the places they are intended to occupy when flowering: here they soon attain strength, and in August, September, and October, will make a display amply rewarding the little trouble occasioned. Established plants may remain three or four consecutive years in the same situations, or indeed until they become too large, with no further care, than cutting off the old flower-stems, and spreading a little mulch about their roots when the borders are dug.

Seed offers another easy mode of increasing their numbers; and when pains are taken to intermingle the pollen of various sorts, is highly interesting, from the production of new varieties:

it should be sown in March, in light rich earth; and, with the benefit of a slight bottom heat, such as is afforded by a gentle hot-bed, the plants soon make their appearance, when, after a week or two's nursing, they may be inured to the air, and as soon as they are large enough, be removed to their appointed stations. No further care is necessary, except an occasional watering, or the aid of a stick, as may be found requisite: they will produce flowers in September of the same year, and have an advantage over cuttings, as they do not require protection; in short, antirrhinums are any body's flowers who will give them room to grow.

In botanical arrangement the genus is included in the natural order *Scrophulariaceæ*, and of the Linnæan system in the fourteenth class and second order, *Didynamia Angiospermia*. The name is derived from the Greek *anti*, similar, and *rhin*, a nose, from the great resemblance presented by the flowers to the snout of some animal. We are indebted to Mr. Fowle, Nurseryman, of Brixton, for our illustrations; and the accompanying list was selected from his stock.

EDITOR.

Albion, white with pink stripe, yellow lip.
Boule de feu, fine large brilliant red.
Beauty, white ground, rosy stripe.
Cupid, straw-coloured ground, pink stripe.
Compacta, yellow ground, very dark stripe.
Delicata, light flower, shaded with pink.
Elegans, straw-colour, pencilled with pink.
Fowlii, crimson and white, like *bicolor*, but much larger.
Gigantea, large crimson.
Ochroleuca striata, primrose, pink stripe.
    grandiflora, primrose, pink tube.
Sulphurea elegans, rich yellow, bold flower.
Striata, white ground, crimson stripes.

THE "SPOT" ON PELARGONIUMS.

We have received many letters on this subject since we mentioned it in last Volume, several of them containing excellent, though speculative, ideas on the matter. The following deserve particular attention, as they convey sound information and very correct suggestions, backed by the experience necessary to the management of large collections; for the writers are known to us as very eminent growers of Pelargoniums.

"I have never had it in my collection: that I do not wish it, every one will believe. I have long held the opinion that it arises from a check to the circulation from too sudden alteration of temperature by the admission of cold air upon the plants. I once had more specimens than I required, or, indeed, than my house would hold. With a desire to reserve them for a late blooming, I placed them at the back of the greenhouse, upon a shelf two feet above the ground. It was the latter end of April, or beginning of May. In a few days all the foliage was spotted, as much so as any I had ever seen. Many eminent growers attributed it to an excess of moisture in their houses, and banished water from their cisterns. My own tank, with a surface of 32 superficial feet, always remains uncovered without any ill effect. Yet there was one plant, 'Foster's Beauty,' I could never grow without the foliage being disfigured in spite of every experimental attempt to avoid it. Distinguished from *the spot* is a similar disease to which *seedling* Pelargoniums are subject, which I shall term the canker. It commences on the stem, or on the termination of the foot-stalk at the stem. In some instances it spreads over the surface of the leaves, but more frequently affects the parts mentioned until late in the season, when the whole plant is a mass of disease; the stem cracks horizontally, and the leaf-stalk snaps like glass. Still the roots are quite healthy and vigorous. For this I know no remedy, or even palliative. Exhibitor."

"Last season introduced me to a knowledge of this pest, which may be well designated 'a plague-spot.' I have grown Pelargoniums for the last fifteen years, but never suffered from its effects till the time named, when it came upon me with a vengeance. The season, if you remember, was an alternation of excessive heat and dull weather, occasioning much trouble to the plant-grower. My plants were in a vigorous condition towards the close of the autumn, but shortly after exhibited an unhealthy aspect, followed by unequivocal symptoms of 'spot,' which continued throughout the growing season. I attribute the disease to the sudden reversion of atmospheric influences (changing from bright to gloomy) acting upon the elaborative organs of the plants in the manner of a check, so as probably to cause a disruption of some of them. I am not quite prepared to say it is infectious, but strongly suspect it.

"C. C."

G. writes thus: — "My opinion of the 'spot' is that it is caused by the chilling effects of a fluctuating atmosphere; the plants being excited to the utmost one day, and perhaps the next subject to precisely the reverse. It is only to be obviated by endeavouring to preserve an even temperature in the house, not that it is to be regulated entirely by the thermometer; for it is of less consequence to maintain at all times the same degree of heat than to have a more regular amount of moisture present in the atmosphere in which the plants are growing."

Another correspondent, Mr. Wilson, says, he believes "the 'spot' on Pelargoniums to originate in this way. The plants, in all probability, about the end of September, or even a week or two later, are making an abundance of new foliage, in fact, are in very active growth, and the possessor is flattering himself that his plants will 'look well' through the winter, and thus encourages them to a continuance of this growth, without at all thinking of the necessity of getting the new parts matured and hardened; the fine weather of the season all the time urging the plants forward, until at last the dull cold weather of November overtakes them in a green succulent state; their vessels are full of crude undigested sap, which they are unable to disgorge from want of sunlight, and it necessarily becomes stagnant and putrid, breaking through the epidermis like a cutaneous disease. Nearly the same result will follow an overdose of food at any season, accompanied by a reduction of light or temperature — as may be proved by experimenting on a worthless plant at any time."

All these opinions seem to coincide in the importance of attaining a proper maturity for the growth of the preceding season before the arrival of winter: a continuance of the warm ripening weather of autumn is wanted as far into the winter months as possible, as it appears that the commencement of dull weather is the period at which the disease makes its first attack; and could it then be repelled, there seems but little danger to be apprehended from it when the return of spring shall have infused new vigour to the plants: not that they are to be kept so warm as to induce much growth, rather the contrary; for then they would be easy victims, being predisposed to any and all diseases; but with a delightful, dry, ripening (we cannot use a better term) atmosphere, such as is usually experienced in August, it is but reasonable to suppose they would pass through the winter in perfect health, acquiring an energy which, on the first application of stimuli in spring, would burst forth with astonishing strength. We are quite convinced that in the management of plants generally, far more depends upon their condition at the return of winter than at any other time; and the most strenuous exertions should be used to have all their several parts perfectly matured before the proper season for its completion leaves us. EDITOR.

HORTICULTURAL ESSAYS,

By the Members of the Regent's Park Gardeners' Society.

GLEANINGS ON THE CULTURE OF THE CUCUMBER.

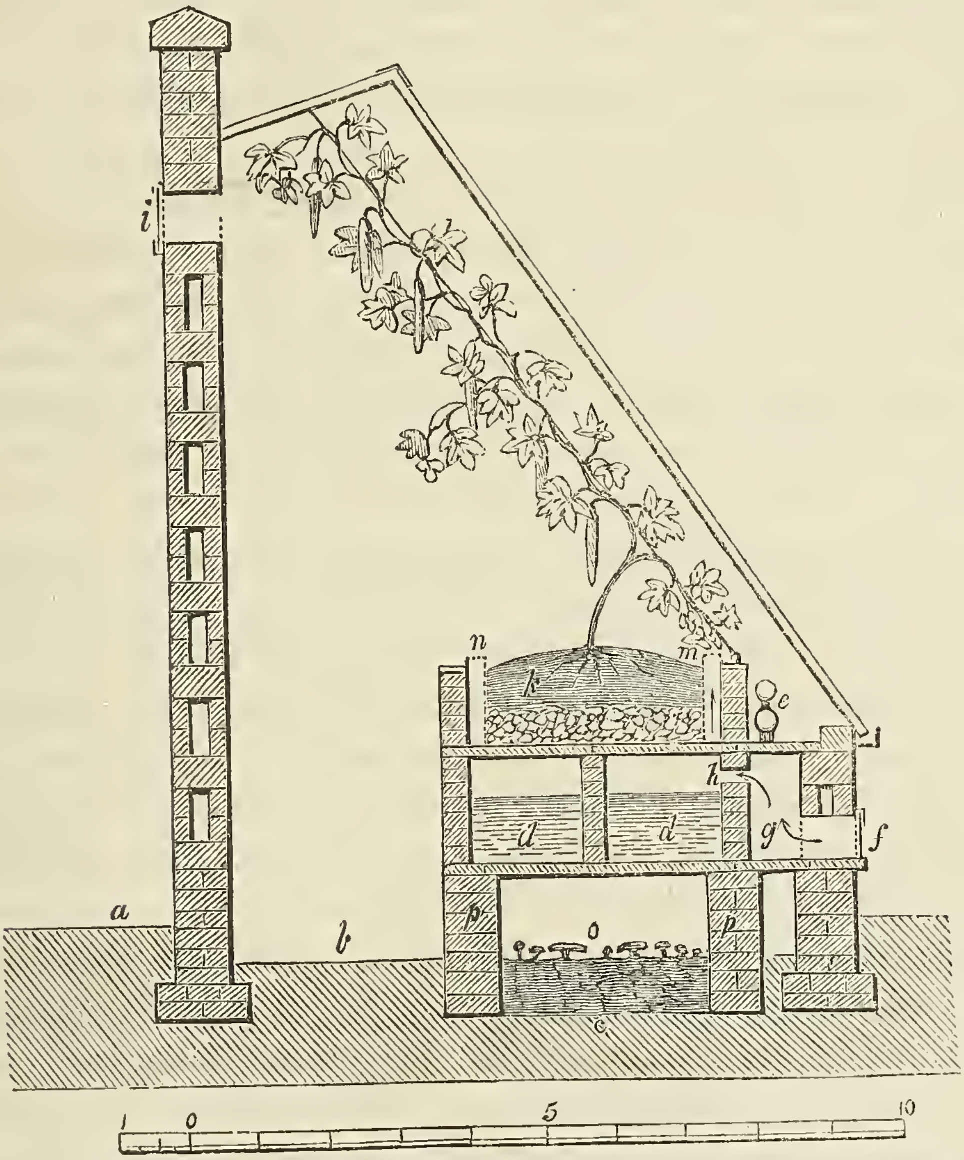
By Mr. T. MOORE.

THE kind of structure which I regard as being the best suited for the successful cultivation of the Cucumber, is such an one as that represented in the accompanying engraving. I might say much of the advantages to be derived from cultivating this plant in small houses, in preference to frames and pits, were it not that these arguments are so well known. That it can be induced to grow as freely, and as satisfactorily, in a small house, as in frames or pits, is a question which does not admit of doubt; and it is no trifling degree of advantage, to be able to secure such satisfactory results, and yet be able to dispense with the labour, and filth, and uncertainty, which is attendant on the use of casings of fermenting material, as a means of maintaining a requisite degree of heat: when we consider the advantage of being able to bestow that degree of attention to the plants which they require, without exposing them to the influence of a rush of cold air, as is the case when the lights of a frame or pit are opened, we have quite enough before us to establish the preference of a small house over a dung-bed, and moreover, over a pit, even though the temperature of this latter is maintained by means of a hot-water apparatus. Neatness, economy, convenience, and certainty, are the advantages gained by employing a pit so heated, over that of using a structure in which the temperature is maintained by the aid of fermenting masses; whilst a still greater degree of certainty, and also of convenience, are the particulars in which small houses may be regarded as being preferable even over pits.

With regard to the question of heating, the gutter and the tank system are both valuable, the latter especially, as a means of securing an equal and genial degree of warmth to the roots. With the use of fermenting masses they admit of no comparison whatever, being infinitely preferable. It must not, however, be supposed, that the heat thus conveyed to the atmosphere, is in itself more suited to the plants to which it is applied, than that supplied by other means,—for heat, that is, simply caloric, is the same in its effects whatever may be the source through which it is derived; and consequently, heat imparted from fermenting manure is as good for the purpose as that derived directly from fire through the medium of a body of water; in one sense, it is even preferable, for ammonia, combined with other gaseous bodies, is contained in the vapour of fermenting manure, and this ammonia is of considerable value to plants when it does not exist in excess. The value and importance of the tank system consist in the uniformity of its action; for when once heated, a body of water such as that employed is found to maintain, with little trouble, and by the application of very slight stimulating power, a constant and genial degree of warmth; whilst, on the other hand, fermenting masses are, from their very nature, both fluctuating and ephemeral in their action; and, setting aside altogether the labour attendant on the employment of them, we have at once before us, in this particular, a proof of their decided inferiority to the tank. Cultivators know full well that in rigorous weather, when the heat of their dung-casings is declining, they are, as it were, almost at the peril of their plants, dared to touch it, for fear of increasing the evil; they know at any rate that if, at an immense sacrifice of labour, they do succeed in replenishing it piece by piece, it is at least two or three days before it is again in a proper and effectual state of action ; and even this period will be lengthened, if they have not on hand a plentiful supply of materials *ready for use:* they must know likewise, even though they may never have had the benefit of experiencing it, that a fire could be made up, and would produce the effect required, by means of the tank, in as many hours as it would take days to do so by following the old plan. And mark this — for it is a point of the utmost importance — the tank system will effect this : thus much can now be very safely asserted.

We sometimes hear of the more humid kind of heat given out from hot-water-pipes than is the case with other appliances, such, for instance, as a flue. It is not unfrequently asserted, that the heat thus imparted is so moist, so genial, so peculiarly adapted to plants. Without doubt, the heat thus obtained is infinitely more suited to the development of plants than that derived from a flue : but its superiority consists in its purity, that is, its freeness from noxious gases, and not in its possessing a greater degree of moisture ; the pipes are composed of a material not to any extent porous, and they give off the caloric only, which is transmitted from the fire to the water, from the water to the pipes, and from these latter to the atmosphere ; it is next to impossible to conceive any thing more thoroughly devoid of moisture than the heat thus communicated to the atmosphere. On the other hand, flues are constructed of porous materials, and smoke, which contains a considerable portion of the elements of water, penetrates more or less through them, and thus the heat imparted from a flue, except where it is in immediate vicinage to the furnace, or direct source of caloric, will be found to be certainly not less, but in a degree more, humid than that from hot-water pipes. Its impurity, however, renders it far less desirable ; for moisture can be added to the dry heat of hot-water pipes.

The engraving will perhaps be rendered more intelligible by a few descriptive remarks, in addition to the reference to the letters. First, I would say that the house should be provided with a tank near the front, in which a circulation of heated water would supply a genial warmth to the soil and the roots: attached to the same boiler which heated the water in this tank, a series of pipes might be so arranged as to supply heat to the atmosphere above the tank, which would be constructed so as to be as near the glass as circumstances would admit: a shallow bed of soil would be placed, resting on a due portion of open rubble for drainage; the upper surface of the tank would be rendered level, so as to admit of water being poured in quantity among the loose drainage, which would ultimately, by the agency of the heat below, be induced to rise among the soil in the form of vapour, and thus duly supply it with moisture. Beneath the tank, an open space would admit



a, Ground level. *b*, Pathway. *c*, Lowest point excavated, on which a bed (*o*) may be made for rhubarb, &c. *d*, Tank, supported by brick piers (*p*). *e*, Pipes for the supply of atmospheric heat. *f*, Apertures for the admission of air, which passes through the chamber *g*, into the tank, by a series of openings at *h*, and thence into the house by the tubes *m*, escaping through the ventilators *i*. *m*, Bed of soil on which the plants grow.

of mushrooms or rhubarb, &c., being cultivated with facility. The admission of air would be provided for by apertures through the front wall, communicating with the upper part of the tank above the level of the water; from thence small tubes would rise at intervals through the soil into the house, and this might be opened or closed at pleasure; the outer orifice would be provided with small sliding shutters, to exclude the external air when not required. By this arrangement the cold air would pass over the surface of the heated water, and become not only warmed in its progress, but also supplied with an amount of moisture proportionate to its rarefaction, and the evil resulting from the admission of cold dry air will thus be altogether prevented.

The plants would be trained on a trellis placed about 15 inches from the glass, and their roots would be confined to certain portions of soil, which would from time to time be replenished. This might easily be accomplished by various arrangements; a few slates placed about each plant would serve as one simple means of effecting it. Transverse divisions would be introduced so as to allow of the removal and renewal of a plant and its soil without disturbing its neighbours; a complete succession might thus be effected. The structure itself would exteriorly be covered with shutters of light frame-work, covered with painted or tarred canvass. These would be kept about six inches from the glass, and thus a cavity would be formed, the air contained in which would serve to prevent that incessant drain upon the temperature of the house which takes place either when the covering is in contact with the glass, or when altogether absent.

Next in importance and usefulness to a house such as I described, I would recommend a pit heated in a similar manner, as being equally suited to accomplish the end in view, though somewhat less convenient in its application to practice. The principal difference between the house already referred to and such a pit would be the omission of the pathway at the back; and that the tank would occupy the whole width of the pit, except, perhaps, a cavity of six inches on either side, or else (which would be equally effectual) the improvement already described in this work might be adopted. The plants would be trained on a trellis near the glass, and be grown in shallow beds of soil above the tank.

Planting.—I may here take occasion to mention that a small portion of soil only should be employed at the time of planting; for if the whole of what is made use of were placed at once in its appointed situation, it might be subject to become soured by the constant action of the atmospheric humidity; at any rate it would be preferable not to risk such a possibility. The portion employed and from time to time added, may be kept together about the roots by means of two or three common slates placed about it. Instead of raising the plants in pots, and transplanting them to these little hillocks of soil, I would would prefer sowing the seeds at once where it was intended they should grow. The tissue of which the roots of cucumbers are composed is of a very succulent and tender nature, and is liable to sustain a serious injury, even by the most careful act of transplantation. This mutilation would have the effect of checking the growth and development of the plants—a result which no care should be withheld which could possibly have any influence to prevent. The development and fructification of plants, all other circumstances of growth being favourable, will be in proportion as the elements of their vitality and extension are uninterruptedly supplied; and, all other circumstances being equal, the result of injury sustained by the organs of nutrition, or of a diminution of food, will be to retard the ultimate perfection both of development and fructification. To carry this principle into practice, I would propose that these hillocks of soil should be made of the same height as the thickness of the soil was intended to be; on this I would invert a 60-sized pot, having the bottom neatly taken out, and this should be filled with soil in which to sow the seed. After vegetation, the roots would penetrate and ramify into the soil beneath, whilst the inverted pot would still remain about the neck of the plant, where it would serve to protect it from injury, either in watering, in adding fresh soil, or from any accidental causes. It will be an advantage, whilst the plants are young and there is no risk of injuring the roots, to stir the soil very lightly every day, so as to keep all clean and neat about them, and prevent the growth of fungi, which are during winter ready enough to rise into being; it will also prevent the surface from becoming caked, and thereby rendered impervious to the action of the source of light and heat.

Pruning.—The plants being intended to occupy a surface of trellis-work near the roof, it will be requisite to encourage their leading shoots to a length sufficient to reach it; when this point is gained they should be "stopped," and thus induced to produce lateral branches; these should be disposed at regular distances on the trellis in a direction towards the top of the house. When they have grown about half-way, they each should also be "stopped," and this will produce several new ramifications of the stem. The uppermost one, if vigorous and healthy, should be trained upwards towards the top of the house, and the others should receive a lateral direction; if these do not show fruit at the second leaf from the main branch they must be stopped again, and this operation should be continually repeated at every leaf until fruit is produced; the upper part of the house should have the same kind of treatment. When fruit blossoms are perceived, the branches on which they occur should be permitted to extend until after the flower has expanded, with a view of leading up a suitable, but not accumulative, supply of food at that delicate period; after this the branch should be stopped at the next leaf beyond the fruit; this will throw in a more abundant supply to that particular part, which is now performing functions peculiarly its own, and which require to be properly supported and encouraged: the leaf beyond will serve as a reservoir to receive the surplus supply, and as a laboratory to purify and assimilate that which reaches it, and return its appointed portion towards sustaining the constitutional vigour of the plant.

This system of pruning must be continued whilst the branches continue in a bearing state, but when any symptoms of decay or of expended powers are perceived, they may be pruned quite away, and young and vigorous branches encouraged in their stead. All this pruning, except that of removing the main shoots, should be done at a sufficiently early period of growth; to be effected with the thumb nail; for, like all other plants, cucumbers are best treated when whatever pruning they require is performed when the least amount of trouble and labour is required to perform it. It is better to remove a portion of any plant at an early period of its growth, and thus to economise its vital energies, rather than to suffer them to be expended, and the supply to become exhausted through a superfluous development, and then to deprive it of the very organs by the action of which the expenditure would be again recompensed to the vital energies.

Season.—But little can be said as to the exact time at which the various operations of sowing, pruning, &c., should be attended to, as that will be entirely dependent on the ultimate object in view. If a continued succession of fruit is required, they must go on simultaneously and consecutively; whilst if the object in view is more limited, the means employed to effect it may be abridged. To cut fruit about Christmas, it is advisable to secure an abundance of strength in the plants, which can only be done by securing maturity of growth during the early autumn months, and therefore the middle or end of August may be regarded as a desirable time to sow the seeds with that object in view. It should ever be borne in mind, that it is far more certain and easy to provide a fruit on Christmas day, when the plants are in a fruiting state a month earlier, than when it is attempted only to have the first fruit ready about that time. There are other advantages in commencing soon enough; one of which is, that if the fruit is ready a few days earlier than it is required for use, it can be kept; but, on the other hand, if it is a few days too late, the evil cannot be remedied.

ON THE CULTURE AND FORCING OF VIOLETS.

By Mr. D. Watt.

Of these simple but beautiful flowers there are several varieties in cultivation, but none of them more beautiful than the Neapolitan, which is a double pale blue, and forms a pretty contrast with the double purple variety.

The cultivation of it is very simple, and there is no difficulty in its propagation, as the side shoots will strike root freely if taken off in March and placed either in pots, in a cold frame, or on a border by a south wall, in a compost of leaf-mould, loam, and sand, well mixed together. I would prefer the latter situation, because in this way they are attended with less trouble and with equal success. The cuttings ought to be planted four inches apart in the rows, and six inches between the rows, to give an opportunity of lifting them with balls of earth at their roots. As far as my experience goes in the cultivation of these truly sweet-scented plants, I think a south aspect ought at all times to be chosen, where it can conveniently be afforded.

The compost that I have found to be the most suitable for growing these plants, is a mixture of very sandy leaf-mould, thoroughly decayed cow-dung, and loam, in equal proportions, well mixed together. I would by no means recommend planting them in nooks, and corners, and shaded places, although I have seen it oftentimes recommended by practical men ; and although I am well aware that violets will grow and flower in almost any situation and in any soil, yet the flowers have neither colour, scent, nor size, when compared with those grown in open aspects. As soon as the cuttings are properly rooted, which will be about the end of April or the beginning of May, they ought to be carefully lifted, and planted in beds about nine inches apart in the rows, and twelve inches between the rows ; after planting, a good watering is requisite, to settle the mould about the roots of the plants, and a temporary shading for a few days might be necessary, removing it gradually as the plants get established. Particular attention must be paid to the watering of these plants, for if they are allowed to suffer for want of moisture, it will, in all probability, throw their flowering season considerably later. I have invariably found them to be very much benefited by an occasional watering with well-decayed sheep's-manure water, until they commence flowering, when it must be withdrawn, or otherwise it will destroy the perfume of the flowers. Under this treatment I have had abundance of flowers by the second week in September, which continued until the first succession of forced plants came into flower.

Forcing. — In forcing the violet, it is the opinion of some gardeners, that bottom-heat is required during the time this operation is in progress : or otherwise removing them in succession to a forcing-house, where they are subjected to a heat of between 50° and 60°, during the night, and to about 20° higher during the day : they will flower under this treatment, but what are their flowers? — they have neither colour, nor size, nor do the plants produce half the quantity that they would do, if they were in a much lower temperature. In establishments where violets are much admired, and often required, which will generally be found to be the case where there are young ladies, I would recommend a frame to be placed in a situation where it would have the greatest degree of benefit from the sun during the short dull days of winter : the same compost may be used that I have recommended for their general cultivation ; to ensure a free drainage, a quantity of rough material may be placed in the bottom of the frame ; then the frame can be filled to within six inches of the top with the compost; after which the plants can be put in, well watered, and shaded for a few days until they get established.

The season of planting must be regulated according to that in which they are wanted to flower: if planted in June, they can be had to flower about a fortnight before Christmas. They will be forwarded, or retarded, according to the state of the season. If wanted to be in flower by the time I have stated, the forcing operation ought to be commenced about the middle of September, allowing them the protection of the lights during the night only for the first fortnight; after which they must be allowed to remain on during the day, with the admission of plenty of air from sunrise to sunset. They may remain under this treatment for another fortnight, or three weeks, when less air will be required, for by this time the short days and long cold nights will have set in. They must be covered, so as not to allow the frost to get at the plants, for which purpose dry hay or leaves will suit equally as well as mats. After the first set of plants come into flower, the protection of the lights may be withdrawn from them, in order to bring on a succession, if they be not already progressing: a temporary frame may be placed over those from which the lights have been taken, to prevent the covering from falling on the plants. By the above method of flowering the violets during the winter, I have been able to gather a weekly supply of six ordinary-sized bunches, besides occasional extra demands. I would recommend the Neapolitan, as being the most suitable variety for this method of forcing.

A FEW REMARKS ON THE CULTIVATION OF THE SHALLOT.

By Mr. G. Wyness.

The *Allium Ascalonicum*, or Shallot, is a bulbous-rooted perennial, a native of Palestine, and introduced in 1542. It is considered one of the mildest of the cultivated alliaceous tribe, and is used for a great variety of culinary purposes, both in stews, soups, and made dishes; sometimes it is used in a raw state, cut small, and served as sauce to steaks and chops.

The Shallot is seldom known to flower in this country, and consequently it does not produce seeds; it is therefore propagated by dividing the clustered offsets, which are either planted in autumn or spring, as may best suit the opinion of the cultivator.

There are great differences of opinion existing with respect to the time of planting, and the selection of the bulbs for that purpose. It may be well therefore to remark, that some cultivators recommend planting the very smallest bulbs, about the middle of October: the reason assigned for this practice is, that the smallest bulbs are less subject to get mouldy, and that it prevents the attacks of the maggot; this may be true to a certain extent; but from my own experience I would always prefer to plant the very finest and largest bulbs I could select, and to plant them in March.

I believe it is a generally received opinion that all bulbous-rooted plants generate in one season the sap which is expended in the formation of the leaves and roots in the succeeding one: this reserved sap is deposited in, and composes the bulb; and it is reasonable therefore to suppose, that the finer and larger the bulb, the better will it be qualified to supply nourishment for the future plant. For this reason, I would always prefer the finest bulbs I could select for planting.

The greatest objection I have to autumn planting, especially in a season like the present, is, that the ground being warm, and well supplied with moisture, will excite vegetation immediately the bulbs are put in; and in cases where they were planted about the middle of last month, the leaves will soon be pushing through the ground, and the first frost that comes will damage them more or less. It matters not howsoever hardy a plant may be; if it is growing, and full of sap, it cannot resist the frost uninjured, for as soon as the sap is congealed, it expands and ruptures the vessels, which stops the circulation, and the stem or leaf is injured or destroyed. Although if, when the first leaves were destroyed, the bulb might not perish, yet it will be so enfeebled by the loss of what it has expended in the formation of these leaves, that it will remain in a debilitated state throughout the season; and we are well aware that plants in a sickly state are more subject to the attacks of insects and disease than those which are in health and vigour. This, then, may be one cause for the attacks of the maggot; and I believe too deep planting to be another cause of disappointment to the cultivator of the shallot.

I have often heard it recommended not to manure ground for shallots, as it would be sure to generate the maggot. I am decidedly of a different opinion, for all the cultivated alliaceous plants that I am acquainted with are what may be termed gross feeders, and delight and thrive most luxuriantly in rich soil; and I still maintain, that if a plant can be kept in a robust healthy state, it will be less subject to the attacks of insects or disease than it otherwise would be.

To conclude these rambling remarks, I will give a brief outline of the practice I have pursued. In the first place, I select a piece of ground intended for the future crop of shallots, and give it a "hearty dunging" with well-rotted manure from an old hot-bed; this is done in autumn, and the ground is laid up in ridges to get mellowed by the winter's frost; about the first week in March, I level down the ridges, and break the ground well with the spade; after which, I mark out the intended rows, fifteen inches apart, and with a hoe draw the fine pulverised soil up in ridges about two and a half inches high, and plant the bulbs, about eight inches apart, on the top of the ridges, inserting the bulb to about half its depth. As soon as the plants are well established, and have got firm hold of the ground, I take the garden engine, and wash away all the earth from the bulbs, and leave them quite exposed, with only the tips of the roots in the ground. It is astonishing to see what progress the plants will make under this treatment. I have had several of my neighbours ask what sort of onions they were, and when I told them they were shallots, I was scarcely credited; if it were so, they said, it must be some new variety, for they certainly had more the appearance of onions than of shallots, both in the shape and size of the bulbs and of the leaves. I can safely say, that I never saw the least signs of maggot or mouldiness about them. The best way to keep them is to take the bulbs up in August, and lay them in the sun to dry; when perfectly ripe, tie them in handfuls by the stems, and hang them up in a dry cool shed.

Any one who will take the trouble to try the above method of growing shallots may be assured of an abundant, clean, and healthy crop; and I am confident, from my own experience, that no one will have cause to regret the extra labour.

Buckingham Palace Garden,
Nov. 7. 1844.

ON STANHOPEA.

WITH AN ENGRAVING OF S. TIGRINA.

THIS Tiger-marked Stanhopea is truly a most extraordinary member of a most astonishing class of plants. Orchidaceous plants generally, when viewed for the first time, present to the beholder a complete vegetable enigma, which it is impossible to solve by attempting a comparison with any other form in the same natural kingdom: the result of the most strange freaks of the wildest fancy would fall far short of these prodigies of nature, these vegetating vagaries, and yet how singularly beautiful is the arrangement of their floral parts! how admirably suited the organic conformation of the plant itself to the station assigned for its natural occupation, ever varying throughout the many genera, as it were to meet the exigences of habitat. Orchideæ seem to the observant admirer to be the last, greatest, and most gorgeous embellishment applied by the generous bounty of an Almighty hand to an already perfect work.

It may perhaps be interesting, as well as useful, even in a practical sense, to point out what appears to be the peculiar adaptation of these plants to the situations in which they are found, as well as the seeming requirement of them in such situations. Chemists tell us that, for the support of animal life, a large proportion of oxygen, derived from the surrounding atmosphere, is consumed, and without the due supply of which none could exist, while for vegetable life, its opposite, or carbon, is required; these are the chief constituents of the two great divisions of creation, which, if reversed in the application, would prove alike fatal to both; each of them are present in common air, but, by the intervention of plants, the injurious increase of carbon is prevented, by the consumption of it for their own purposes, and in its assimilation they separate and emit the oxygen, so necessary to animal constitution. Exotic Orchidaceæ are found only where moisture is prevalent, — usually in the form of floating aqueous matter; or in other words, a warm, humid atmosphere is necessary to their existence: now it is in situations such as these that carbon abounds, consequent on the presence of so much water, or rather on the very rapid decomposition which follows the extinction of life, and it is from this cause that the tropics are so inimical to constitutions used to a purer atmosphere: how beneficent the arrangement, then, that places here the most luxuriant vegetation of the world, in order to reduce these evil effects, in the working out of which the plants under consideration occupy no minor position! — they are purifiers of no mean power, evidently intended for stations where no other form of plant could exist. Seated on the decaying stump of a tree, or swinging on the remains of a dead branch, whence otherwise would issue a stream of impure gas, to the detriment of the animal portion of the occupants of the country, or it may be, spreading themselves over the face of a craggy promontory whose crevices are filled with putrefying debris, they perform their allotted task in silence, and with positive certainty.

Now then that we know something of their intended end, we may begin to admire the adaptation which suits them to such purposes. In the countries mentioned it is well known the weather is seasonal; at one period subject to the torrid influence of a vertical sun, which dries the atmosphere even to aridity, and then again deluged with almost incessant torrents of rain: in the latter season these plants acquire a surprising vigour; they form new parts, and, as it were, provide a store of sustenance against the exhaustion consequent on the recurrence of the former period; and for this purpose, what form seems so appropriate as the pseudo-bulb or bulbous stems common to them? which, if examined, will be found to consist of an innumerable ramification of minute veins or ducts containing liquid, alimentary matter, covered with a thick, leathery epidermis, so as effectually to prevent radiation or the withdrawal of moisture, but by the most gradual and almost imperceptible manner. And then, again, the majority possess stout fleshy leaves, having nearly an equal absorbent and retentive power; in short, their roots seem to be the only ephemeral organ they have, for many of them we believe to be virtually deciduous, not lasting in actual vitality more than one season, though, from the wiry nature of the central portion, they are of assistance to retain the plant in its position for a much longer time. This applies to nearly all that have pseudo-bulbs, where, indeed, their continuance is of far less moment, as the plant possesses a reservoir of nutriment within itself sufficient to relieve it of the necessity of any extraneous assistance.

Thus, then, do these plants, which are the wonder and admiration of all who behold them, either for their minute curiosity or gorgeous splendour, perform most important functions in the grand scheme of creation, displaying another link of the harmony which exists in all created matter.

The genus Stanhopea was so named by Sir William Jackson Hooker, in compliment to Earl Stanhope, president of the Medico-botanical Society, and a great patron of horticulture. It comprises upwards of seventy species and varieties, which have a widely-extended geographical range over the greater portion of the South American Continent and adjacent islands.

The first importation occurred in 1824, when the species *grandiflora* was brought from Trinidad, to excite the surprise of British cultivators with its large, pure white, ivory-like flowers. The admiration consequent on the production of the flowers of this species was gradually increased by the successive introduction of *S. insignis*, *S. oculata*, and *S. eburnea*, together with some varieties of the two first, until it reached a climax by the amazing richness and variety of colouring displayed on the extraordinary forms presented by the blossoms of *S. tigrina*, *S. Wardii S. Devoniana*, *quadricornis*, *saccata*, and *Harrisoniæ*, which were all introduced within a few months of each other in the year 1836. Lately, however, varieties have increased almost *ad infinitum*, especially of the species *oculata* and *insignis;* of *tigrina* also there are several, varying both in size and colour. That represented in our accompanying plate possesses the most intensely-coloured markings of them all, which, combined with its large size and bold habit, concurs to render it the most highly esteemed of Stanhopeas. The flowers of this plant are produced in pairs on a short stem, which proceeds in a downward direction from the base of the pseudo-bulb, penetrating through the mass of earth in which the plant is grown, until it attains the exterior of the basket, at a short distance from which the flowers are unfolded. The specimen from which our drawing was taken formed part of the rich collection of Messrs. Rollison, of Tooting, Surrey, and at the time had fifteen pairs of flowers fully developed, presenting in the whole a most gorgeous object.

We have before (at p. 173. Vol. IV.) given an outline of the cultivation of this genus; but it may be necessary, for the benefit of new subscribers, to repeat the substance of those remarks. From what we have just mentioned respecting the manner in which these plants grow, and produce their flowers, it will be evident that they require to be placed in soil of an open texture, confined about them only at intervals, or their flower-stem will not be able to protrude, and consequently perish; this has induced the use of baskets, and for these and all other pendent flowering species they offer decided advantages over any other mode. The neatest in appearance, and most durable material we have yet seen for the construction of these baskets, is the smaller kind of bamboo canes, such as are usually employed for umbrella handles; they may be bought at a trifling price, while in the rough, and can be cut into lengths and used as they are required. Baskets thus made are very light, rather ornamental than otherwise, and will last several years; a matter of no mean consideration in the culture of Stanhopeas, which do not thrive if frequently removed. The soil in which they delight is a mixture of turfy heath-mould, containing a large proportion of decayed vegetable matter, and sphagnum; an equal quantity of each will afford a suitable medium for the full supply of nutriment to the roots of the plants, observing to cut the moss rather small previously to using it. Very much of the success that should be attendant on the management of these plants depends on the application of water. It is necessary, to insure a vigorous growth, that a plentiful allowance be given at the proper season, and continued until near the perfection of the new parts; so also it is necessary that a very considerable reduction be made immediately after this period, in order to thoroughly ripen the additional pseudo-bulbs, and to induce them to flower; and in a corresponding degree, and at the same time, there should be an increase and diminution of temperature, the rise and fall of the latter agreeing with the presence and absence of moisture. A liberal supply of moisture consists, in our estimation, of a moderate quantity applied to the roots about three or four times in a week, just enough to moisten the whole mass of mould throughout, and the application of steam for an hour every night and morning; the most proper time to begin the system is when the plants first indicate an inclination to grow, by the swelling of the buds at the base of the pseudo-bulbs. It must be understood, that though we advise a decided difference in the supply at the growing season and afterwards, yet we do not recommend an entire cessation: sufficient must be given to prevent the pseudo-bulbs shrivelling, or the effect will be a puny attempt at flowering. The maximum temperature for the growing season may be stated at 75° or 80°, on reaching which air must be admitted, and the minimum should be 60°; for the resting period 60° will be quite enough for the maximum, allowing it to fall at night, and in dull weather to about 50°. — Ed.

TRELLIS FOR CLIMBING PLANTS.

Many very opposite opinions are just now being promulgated as to the most appropriate form to be given to climbing plants, or rather to the wire frames on which they are trained, and there are advocates for nearly every imaginable shape. The proper disposal of the tender and flexible branches of these plants is, beyond question, a matter embracing a considerable amount of taste, and affords the gardener an excellent opportunity for the display of ingenuity and attention. For this reason I may be pardoned troubling you with a somewhat worn subject, though a notice of it seems necessary in defence of those who presume to think in opposition to the *savans* who are attempting to lead all taste.

Some of these gentlemen state in the most positive tone, that in future nothing but globular or cylindrical trellis can be received as possessing the least pretensions to propriety. Many extraordinary reasons are assigned for this decision, and some hard names employed to attach ridicule to the old-fashioned flat frames usually seen. Now, as I happen to use a great many of all descriptions, and from conviction am favourable to the flat trellis, with your permission I will undertake the defence of its continued use. And first, to meet the dissentients in their most important objection, viz. its tastefulness, here I must observe, that in my opinion true taste consists in the appropriate application of ornament to whatever in itself bears the impress of some definite object of usefulness, and without which all ornament is mere fantastic arrangement. What, then, is the object in supplying trellis to climbing plants? Is it not that the whole plant may be seen and admired? This cannot be disputed; and then what form can be chosen but the flat one, which will do this to the full? Circular trainers of any kind exhibit only half the plant, and most troublesome it is to preserve the proper vigour on the side secluded from the light. It is true a poetical illusion has been thrown over the cylindrical shapes, by imagining their resemblance to a pillar; but I could say something about how nearly they approach the form of a chimney-pot. However, their best friends do not recommend them on the ground that the plant will succeed better upon their favourite shape than any other: many of them, indeed, have divided the question, by using only half a cylinder, because they find it next to impossible to preserve the same appearance on all sides of a circle, and it certainly is better to have a whole plant even on half a trellis, than half a plant on a whole cylinder. And here it is that the superiority of the flat frame stands prominently forward; the whole of the plant is seen at a single glance, every leaf and flower being placed in the very best position to please, and, moreover, that position is the one most natural and conducive to the general health of the plant. Much has been said about the form best suited for grouping with other plants of a contrary character. Now I think that climbers never do, or will, "group well" with shrubs or plants of any description of other than their own character; they should be grown or exhibited by themselves, for all training is artificial, and every kind of trellis displays a formality too conspicuous to escape the observant eye of taste. This view of the matter reduces the question to the mere consideration of what form will best set off the plant when in perfection, and I think what I have said will make that of easy determination, unless indeed the strictly natural mode of supporting them can be received as admissible among cultivated objects; this would be to place the branch of a tree within reach of the plant, and allow it to take its own direction, — a method too negligent in appearance to meet the commendation of those who value neatness, though perhaps preferable to any kind of training where it is absolutely required to mix them with other vegetable forms. On the score of convenience, I am also disposed to give the preference to the flat trellis, as they occupy less space, will stand where no other plant would that is growing in a pot of the same size, even with advantage against the back wall of the house, or even two or three deep, without injury, observing only to place the strongest in the position that is furthest from the light, and the stems or branches may be disposed, examined, and cleaned with much greater ease and precision, and the constant trouble in turning necessary to the round ones is entirely obviated. These considerations have brought me to the conclusion, that of all artificial forms for climbing plants the flat trellis is the best.

HORTULANUS.

[In our opinion a slightly convex frame possesses all the advantages of either of the forms mentioned by our correspondent; in fact, displaying the plant to greater advantage than any other. We perfectly agree with him in his remarks on "grouping," climbers are a distinct class of plants, and under all circumstances, excepting only when employed to ornament a fixed structure, should be kept as distinctly separate. ED.]

RECOVERY OF PLANTS FROM FROST.

IT is not so generally known among amateur cultivators as perhaps is to be wished, that plants which by some inadvertent accident have been subject to the influence of frost may be recovered by simple means without experiencing any material injury, and it may happen, that, by mentioning it at this season, the lives of some especial favourites will be preserved.

We are fully cognisant of the unpleasant change experienced when it becomes necessary to turn out of a warm bed into the open air at about four or five o'clock on a frosty morning in winter, to attend to the comfort of these vegetable pets, a duty which, however urgent, nothing but professional habit or a most enthusiastic love of plants can ever render endurable; knowing this, we are aware of the great probability of personal comfort receiving first attention, and the possible consequences of it.

Should it happen, either through this cause or any other, that greenhouse plants, or those preserved in frames, are exposed to the action of frost for a short time, they may be recovered by excluding light as much as possible, and allowing them to thaw gradually. The readiest mode is to cover the house with mats, and apply a very gentle fire. The temperature should be raised about five degrees above the freezing point, and maintained at it, but not higher, for three or four hours before the mats are removed; this will certainly restore them, unless, indeed, the frost has already ruptured their tissue; the effects of five or six degrees may thus be expelled; though a knowledge of this must not serve as an excuse for inattention, nor must the cultivator imagine, that because there is a remedy for slight cases that the plants may be left to themselves through a cold night, for it may likely enough happen that they get an over-dose, from which no art can relieve them.

Another method is sometimes employed, that of dashing cold water through a syringe over the parts affected: this, however, is not an advisable practice, for though it remove the frost, the plants frequently suffer from the effects of the moisture; it may, however, be adopted where shading in not possible. It must be understood that it is absolutely necessary to the success of either that the application be made on the earliest discovery of the accident, for it would be quite useless to attempt the recovery of the plants an hour after the sun's rays have reached them. — Ed.

LIST OF ORCHIDEÆ.

(*Continued from* p. 36.)

284. *Oncidium lacerum.* This species has much the habit of *O. longifolium*, but the flowers are more dense, as in *O. ascendens.* It also requires the same treatment and temperature.—*Native of Demerara.*

285. *Oncidium papilio.* (Butterfly-like.) Plant pseudo-bulbous; bulbs 3 inches long, and the same in breadth, rather flat, angles sharp; leaves single, lanceolate ovate, colour dark purplish green, spotted with pale green; flower-spike 3 feet long, and slender, lasting for years; flowers solitary, sepals and petals spotted and barred with orange; the former are like the horns or antennæ of the insect, the latter are like wings; the column bears a striking resemblance to the head; labellum yellow, spotted and barred with purple. This species seems to differ in a great measure from the other members of the genus it belongs to, and it remains a doubt whether it may not more appropriately form part of the genus *Odontoglossum.* It requires pot cultivation, with a free drainage and a compost of turfy peat and sphagnum, with some small potsherds mixed together, and to be sparingly watered at any time. Temperature from 65° to 70°. — *Native of Trinidad.*

286. *Oncidium ampliatum, var. major.* Plant pseudo-bulbous; bulbs 2 inches long, ovate; leaves sometimes in pairs, but generally single, 8 inches long and 3 inches broad; flower-spike 2 feet long, branched; the sepals and petals of the flowers are large and showy, yellow spotted with red; labellum yellow without any spots. This species may be either grown on a billet of wood covered with sphagnum, or in a pot with plenty of drainage and a mixture of turfy peat, sphagnum, and small potsherds, with a liberal supply of water while growing, and a mean temperature of 65°. — *Native of Trinidad.*

287. *Oncidium lemonianum.* A very singular looking plant, destitute of bulbs; in habit much the same as *O. tricolor*, but the leaves are much narrower, and the flower-spike slender, bearing but a few flowers, which are yellow; treatment and temperature the same as for *O. triquetrum.* — *Native of Brazil.*

288. *Oncidium barbatum.* Plant pseudo-bulbous; bulbs 1 inch long, rather flat, of a pale yellow; leaves in pairs, 4 inches long; the sepals and petals yellow, spotted with brown; labellum yellow. This species requires pot cultivation, with a free drainage and a compost of turfy peat, sphagnum, and small potsherds, with a slight elevation above the level of the pot; water will be but sparingly required at any time; temperature, 65° to 70°. — *Native of South America.*

289. *Oncidium fimbriatum.* Plant pseudo-bulbous; bulbs very much like the last; flowers borne on a short spike; sepals and petals yellow, spotted with brown; labellum yellow, fringed at the margin. For treatment and temperature it may be referred to *O. barbatum.* — *Native of Brazil.*

290. *Oncidium bifolium.* Plant pseudo-bulbous; bulbs 1 inch long, green, slightly barred with brown; leaves in pairs, 6 inches long and an inch broad; the flowers are produced on a half-pendent spike; sepals and petals half an inch long, greenish yellow, spotted with brown; labellum very bright yellow, 2-lobed, and better than 1 inch broad. This species is well worth cultivation, and requires growing in a basket suspended from the roof, in a compost of small pieces of turfy peat, potsherds, and sphagnum, liberally supplied with water during the growing season, and a temperature of 65° to 70°. — *Native of Monte Video.*

291. *Oncidium bifolium, var. pallidum.* In this variety of the last species the habit is the same, but the flowers are much paler, and not so fine. It requires the same treatment and temperature. — *Native of Monte Video.*

292. *Oncidium reflexum.* Plant pseudo-bulbous; bulbs 6 inches long; leaves in pairs, 18 inches in length; the flower-spike is frequently 2 feet long; flowers yellow; the sepals and petals being bent backwards give to the blooms a distorted appearance. This species requires the same treatment and temperature as *O. barbatum.* — *Native of Mexico.*

293. *Oncidium nudum.* This species is destitute of bulbs, and has the habit of *O. Cebolleti;* its flowers differ a little in form, and the sepals and petals are much more spotted with brown; the labellum is bright yellow. It requires the same treatment and temperature as the one alluded to. — *Native of Caraccas.*

294. *Oncidium Philpsianum.* Plant pseudo-bulbous; bulbs 3 inches long; leaves in pairs, 18 inches long; the flowers are large and splendid, borne on a long spike much branched; the sepals and petals pale green, spotted with purple; labellum yellow. In general appearance this plant very nearly approaches *O. altissimum*, of which I think it only a variety; treatment the same as for that species; temperature 65° to 70°. — *Native of Brazil.*

J. Henshall.

(To be continued.)

BRITISH ORCHIDEÆ.

I have been much pleased by the remarks of one of your contributors, contained in your last excellent Number, on this interesting subject. I have for years been trying to induce my horticultural friends to make collections of our home orchises, but I do not recollect that I ever induced more than one party to pay that attention to them they so richly deserve. I have ever found them ready to grow an exotic, let it be ever so insignificant; but our home plants they seem to disregard altogether. I beg to assure your readers they may grow British specimens with very little trouble. I have grown them more or less for many years, and have always found them to more than repay any trouble attending them. Your correspondent is quite correct in supposing they may be much improved by judicious culture, and I can fully enter into his feelings, that in this day, when floriculture is so rapidly advancing, it is strange these lovely plants are so little noticed.

In the neighbourhood of Matlock, Bath, Derbyshire, I have found the following, which alone would form an interesting group:—

Orchis bifolia
  pyramidalis
  morio
  mascula
  ustulata
  militaris
  maculata

Gymnadenia conopsea
  hircina Satyrium
    hircinum
Ophrys muscifera
  apifera
Neottia nidus avis.

There are, I believe, about four or five others found in the same locality.

Manchester. G. T. Dale.

[Will any of our friends oblige us with a detailed mode of growing these native gems? — Ed.]

A NEW TRAP FOR INSECTS.

We have lately received from Mr. Devonport, of Newport, Staffordshire, an ingeniously contrived trap for earwigs, woodlice, and such nocturnal depredators. It is made of earthenware, in form of a double funnel, the inner one being smaller and shorter than the outer, leaving a vacuity for the reception of the insects; the under side of the first, where it is intended the tops of the flower-stick should come, is made rough, to facilitate the entrance of the insects, while every other part of the interior, as well as the outside, is glazed. This prevents their return, after having once passed over the top of the inner cylinder; they are then taken by removing the stopper of the exterior mouth, and shaking them out. The advantage is apparent in the saving of trouble effected ; for with ordinary traps it is necessary to examine them every morning, or on the approach of night the destruction recommences, the insects returning again to feed on the plants beneath; but with this of Mr. Devonport it is not absolutely required to attend to them more than once or twice a week, as the glazed sides of the two funnels, which form the vacuity, utterly preclude the possibility of escape. The size of this trap is about that of a small (60) flower-pot; the form is artistical ; and if coloured green or some inconspicuous colour, according to the situations they are required for, instead of white, as in the specimen sent, there is nothing about them to offend the discriminating eye of taste, and we are sure the Dahlia grower will receive them as a boon.

LIST OF NEW PLANTS.

Cactaceæ. — *Polyandria Monogynia.*

Disocactus biformis. A singular little cactaceous plant, with smooth, round, woody stems, and fleshy oblong-lanceolate leaves from 2 to 3 inches long; the flowers are solitary, drooping, about 2 inches in length, of a deep pink colour, usually produced at the extremity of the two-years-old leaves. It is remarkable for the regularity in number with which the sepals and petals are produced; these are constantly four of each — while with Indian figs in general the arrangement of these parts is extremely uncertain and various. This feature has suggested the idea of founding a new genus, of which the present subject is the type. It was introduced by G. U. Skinner, Esq., from Honduras, in 1839. In cultivation the plant requires a warm greenhouse and the usual treatment of such plants; it is an abundant bloomer, and is equally interesting in the autumn, when covered with its crimson fruit. — *Bot. Reg.* 9—45.

Berberaceæ. —*Hexandria Monogynia.*

Berberis trifoliata. This very rare and beautiful species was found in Mexico, by Mr. Hartweg, near the Hacienda del Espiritu Santo, on the road from Zacatecas to San Luis de Potosi, an immense plain, occupied chiefly by Opuntias, stunted plants of Prosopis dulcis, and Yuccas. It covered large tracts of country; the people call it Acrito. Its sessile, ternate, holly-like leaflets, beautifully marbled with pale blue and dull green, are entirely different from any thing among the pinnated Berberries hitherto discovered, and, it may be added, are very much more handsome; the racemes, if such they can be called, are axillary, bearing three or four bright yellow flowers. It forms a dwarf-spreading evergreen shrub, and seems to be about as hardy as Berberis fascicularis. — *Bot. Reg.* 10—45.

SOLANACEÆ.—*Pentandria Monogynia.*

Solanum macranthum. A native of Brazil, and has long been cultivated in the old stove of the Royal Botanic Gardens of Kew, where, planted in the border, it has attained to the height of the roof. In such a situation it really makes a very handsome appearance, with its ample foliage, and its large, pale, lilac-coloured flowers, which, drooping as they do, are seen to great advantage from below. To those cultivators who have not space to allow its growing thus freely, cuttings may be recommended, which strike freely, and flower almost as soon as struck.—*Bot. Mag.* 4138.

PASSIFLORIACEÆ.—*Monadelphia Pentandria.*

Disemma aurantia. This plant resembles in general appearance some of the smaller-growing Passion-flowers; it is a native of New Caledonia, and there are three other species, all of Australian origin. It is a greenhouse climber, easily cultivated in a pot, with wire trellis; and is remarkable for the flowers being nearly white in the bud, and on first expanding, gradually assuming a yellow or tawny tint, and finally becoming a brick red. The sepals have a singularly broad keel or deep wing at the back.—*Bot. Mag.* 4140.

THYMELEÆ.—*Octandria Monogynia.*

Cryptadenia uniflora. Among the handsomest of the Linnæan genus *Passerina* were three species, the present, *P. grandiflora*, and *P. ciliata*, which, in habit, as well as in essential character, differed considerably from the others. These Professor Meisner has wisely separated from *Passerina*, and named *Cryptadenia*, from the presence of eight glands concealed within the tube of the floral envelope, and alternating with the eight stamens. All are natives of the Cape. The present species, though sufficiently known in Herbaria, is probably rare in gardens, though well deserving a place on account of the beauty of its copious flowers, and the long time the plant continues to blow. It has, however, been cultivated at Kew since 1759. It flowers there in the early summer months, in an airy part of the greenhouse.—*Bot. Mag.* 4143.

ORCHIDACEÆ.—*Gynandria Monandria.*

Cymbidium ochroleucum. This plant has a very singular mode of growth, producing its distichous flowers in a leafy spike, quite distinct from the pseudo-bulbs, which themselves originate from the axils of leafy branches. The flowers of the leafy spike open in succession, but I have never seen more than two expanded at once; they are white or cream-colour, fragrant, and rather large; the sepals and petals are nearly uniform, oblong-ovate, the latter rather narrower; all of them concave. The three-lobed lip is yellow, streaked transversely with red; the disk of the lip has a broad crest, formed of orange-coloured imbricated soft spines. — *Bot. Mag.* 4141.

Miltonia cuneata. This is a most beautiful epiphyte, allied to *M. candida*, with flowers nearly four inches in diameter; the sepals and petals a rich brown, tipped with green. The lip is pure white, with a tinge of pink near the base, in form quite different from *M. candida*, for it is scarcely at all curled at the edge, is very much narrowed to the base, and has only one pair of plates instead of two and a half. The wings of the column too are scarcely divided, or at all events not at all notched. — *Bot. Reg.* 8—45.

TO CORRESPONDENTS.

T. Stanton.—Procure the following Camellias, and you will have twelve good ones—Imbricata, Chandleri, Bealii, Hallei, Double Striped, Fordii, Donkelaarii, Monarch, Elegans, Pompone, Press's Eclipse, and Reticulata. Obtain your seed, if possible, from Donkelaarii, or any other variety rather than Waratah, the latter having been seeded for so long a period, that the chances of getting a distinct new one from it are so much lessened as to be scarcely worth the trial.

Florista.—Cut down your Chrysanthemums, and place them out of doors; if they are alive now, there will be plenty of new wood to propagate with next May.

A Suburban Gardener.—We have stated before that the majority, or perhaps the whole, of Gesneraceous plants may be grown to a high state of beauty, with the assistance of a common garden frame and a greenhouse, provided the latter is kept a few degrees warmer than usual after the admission of the plants. Potted now, and placed in a temperature of about 60° or 65°, they will quickly vegetate, and, with the ordinary attention to watering, &c. will begin to produce their flowers in May, which is the most proper time to remove them to the greenhouse, though it may be done sooner if space in the frame is limited; the advantage of deferring is, that at that time the ordinary occupants can be placed out of doors, and the house managed with reference more particularly to these.

J. T. As you are restricted to annuals we would advise you to fill the beds this way — No. 1. Nemophila insignis; 2. White Candy Tuft; 3. Sphænogyne speciosa; 4. Nolana atriplicifolia; 5. Calandrinia speciosa; 6. Erysimum Perofskianum; 7. Purple German Stocks; 8. Nemophila atomaria; 9. White Stocks; 10. Mixed Larkspurs; 11. Calliopsis atrosanguineus; 12. Convolvulus minor, and 13. Hibiscus Africanus; these will afford a variety of colours, are suitable for height, and are easily procured.

Weston.—Protect the rising flower-stems of auriculas from frost by all means in your power.

X.—Gompholobium requires a higher temperature than is proper for heaths; this accounts for your plant failing; place it now in about 50°, and you will see it recover daily; the greenhouse will do for it through the summer and autumn. A similar temperature is equally necessary for the majority of Kennedias and allied plants.

A Sub. — We go to Shirley for peat, and Wanstead for loam: it is excellent.

CALENDAR FOR MARCH.

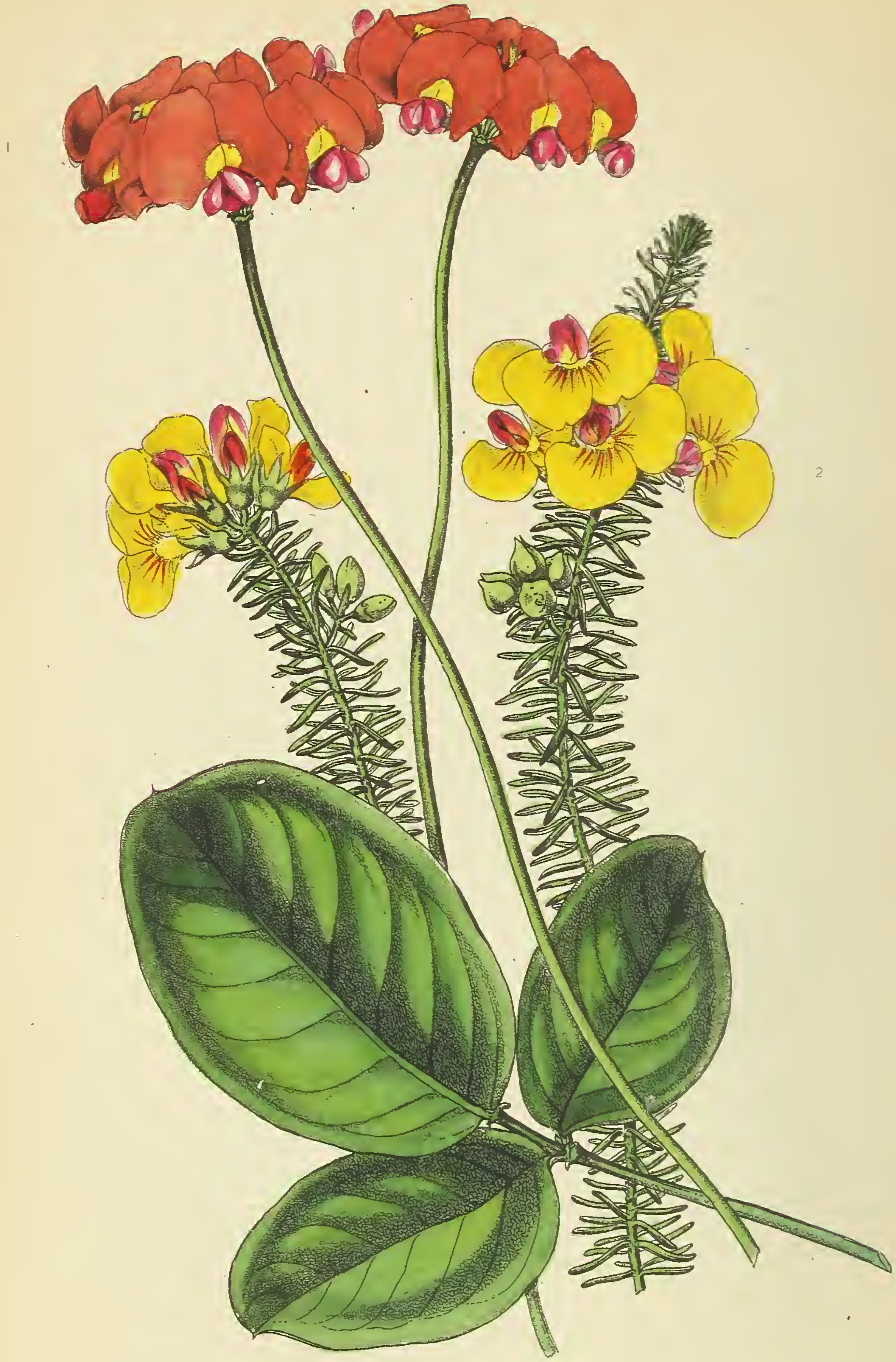
With this month the labours of the British botanist may be said to commence in reality. Every sunny nook and bank and old wall will begin to teem with flowers, and a great many of our native deciduous trees and shrubs will be in bloom. The hazel, the alder, the birches, poplars, various willows, and the yews, will afford excellent opportunities for examining the structure of monœcious and diœcious flowers; and the elms ought also to claim the attention of botanical amateurs, in order to help to clear up the confusion in which our native species of that genus are at present involved. The beautiful *Daphne Mezereum*, and also *D. Laureola*, will also be in flower, and should be sought for especially in woods on a chalky soil, and further, the hellebores, the daffodil, butchers' broom or knee-holly, and many other plants, in similar situations. To enumerate all that may be found would stretch this notice to too great a length; but at least from forty to fifty species of flowering plants ought to be observed by any moderately industrious collector during the month.

In the flower-garden great activity will be required to prepare for summer display, as well as to make the most of those heralds of that more gorgeous time, the hardy bulbs and other plants, whose early flowering renders them such universal favourites. The propagation of all bedding-out plants, of which there is not already a sufficient stock, should be proceeded with. Hardy annuals should also be sown, both in pots and in any vacant spaces where they can remain to flower. Of course any departure from high keeping will lessen the enjoyment of the garden, and at no period of the year so much perhaps as at the present time; extreme neatness, and close attention to common routine work, must therefore be strictly adhered to by all who wish to derive the greatest amount of pleasure from a garden.

In the greenhouse many of the plants will require to be shifted into larger pots. This operation should not be performed until the plant evidently requires it, as shown by its renewed growth. As the large shift, if not the one-shift, system is now very generally practised, the amateur should be careful to avoid the use of compost reduced to a fine state by sifting or otherwise. The earth used, whether loam or peat, should be as turfy and fibrous as possible, and only reduced according to the size of the shift, so as to go tolerably easily between the ball of the plant and the side of the new pot, being careful to use plenty of drainage all through the earth, especially with very large specimens. Charcoal forms the best draining material, on account of its lightness, independent of any chemical or mechanical properties it may possess in connection with the soil.

In the Stove, potting will also be a principal operation, and the same directions apply here as to other potted plants. The orchidaceous plants, too, should be growing strongly, and should on no account be allowed to stand still for want of stimulants, especially as regards heat, light, and water. The temperature in all plant structures should be gradually rising, but not too rapidly, especially at night, — a high temperature at that period being contrary to nature and very inimical to plants under artificial circumstances. D. M.

Florist's Flowers. — The dahlia-grower will now be busy: forward cuttings may be struck in gentle heat, and afterwards hardened off by degrees. Pot roots start with greater strength now than if forced earlier: picotees and carnations require to be potted about the middle of the month; before using, the mould should be narrowly examined, that no grubs or wire-worm be allowed to escape; place a good drainage in the pots, and, after the operation is complete, stand the plants on a slightly elevated stage, to prevent the ingress of worms. Keep auriculas moderately moist; they frequently require water immediately after frost, which dries the soil nearly as much as strong sunshine. Polyanthuses should be top-dressed with a very rich compost, and, as they advance towards blooming, liquid manure may be occasionally given. Beds of pinks, pansies, ranunculuses, &c. should be top-dressed with rotten manure or some similar stimulant. Roses should be pruned, cutting those it is desired to have in bloom later than the ordinary season close back. Geraniums and calceolarias are extremely subject to attacks from green-fly: this must be remedied by fumigation on the earliest discovery. Fuchsias will require a temperature of about 55° throughout this month, with attention to potting, ventilation, and the supply of water, regulating the first by the advance of the plant, and the latter by the state of the atmosphere. P.



1. KENNEDIA INOPHYLLA __ 2. DILLWYNIA FLORIBUNDA

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THE

FLORIST'S JOURNAL.

April, 1845.

OF THE GENERA KENNEDYA AND DILLWYNIA.

WITH AN ILLUSTRATION.

The relative value of newly imported plants or seeds is frequently a matter of much anxious conjecture to those who happen to have the care of them, and often years of fruitless attention are bestowed upon forms the most ephemeral and worthless; but on the other hand there are plants, which, though subject to the most unfortunate treatment, preserve to themselves, despite every untoward accident, a place of no mean account in nearly all collections, and, when seen under favourable circumstances, present a perfect flood of beauty: of this latter class, are the plants now portrayed, which, though they have no particular claims on the score of novelty, and are frequently seen suffering the effects of unpropitious treatment, yet are capable of being made to form most ornamental objects.

In the management of Kennedyas, the most important consideration devolves upon the due supply and maintenance of a genial atmosphere; it is true they are natives of a country whence plants of a far hardier character have been obtained, and this has probably led to an error in their management, for instead of being found in arid or exposed situations, as much of the flora of that country is, the Kennedya almost invariably occurs in spots remarkable for the salubrity of the air and alluvial nature of the soil: in sheltered glades near the course of waters, they are found in all their native vigour, clinging to the surrounding vegetation with a tenacity which almost defies the traveller's attempts to force a passage, rendering the shrubs and small trees on all sides gay, with dependent festoons of scarlet, crimson, and orange-coloured blossoms.

When we find a plant thus naturally an inhabitant of humid places, exposed to the wasting influences of constant currents of fresh air and uninterrupted light, it is not surprising that exhaustion ensues: its natural powers of absorption are insufficient to equalize the supply with the demand, and become in consequence gradually weaker, instead of accumulating strength, which necessarily results in an abortive attempt of the plant to perpetuate its species, by producing seeds rather than an extension of its own ligneous parts: this weakness naturally affects the entire energies of the plant, so that the few flowers produced are individually smaller, and seldom retain vigour enough to perfect their seeds; thus the plant gradually gives way before the incessant drain inflicted on it, making however unceasing, but ineffectual efforts to preserve its vitality, until at last its entire dissolution terminates the struggle.

How different is its progress when surrounded by a genial and slightly stimulative atmosphere: the rapid increase and extension of its flexile branches is only equalled by the amazing difference exhibited both in number and size of its floral parts. To grow this genus well, small healthy plants should be selected, and removed about the middle of January from the small pots in which they have stood through the winter, into others at least three sizes larger, using an abundant drainage, both at the bottom and throughout the mass of soil, which should consist entirely of rich heath-mould, containing a large proportion of decayed vegetable matter, adding only a quantity of sand, sufficient to preserve its porosity: this soil should be used in as rough a state as possible, allowing all the roots and small lumps to remain in it, and for the internal drainage perhaps nothing affords a better or more permanent medium than charcoal broken up and mixed thoroughly with the soil: at this stage, a temperature varying from 45° to 50° should be applied to the plants with a supply of moisture regulated in accordance with the state of the external atmosphere, increasing the amount gradually until by the end of March its maximum may occasionally reach 60° or even 65° on warm days; with this heat a much larger quantity of moisture will be required, in fact the atmosphere of the house must be kept constantly supplied with vapour, not to the extent certainly requisite for inter-tropical plants, but to an amount easily appreciable: to the practical man we can readily explain the kind of atmosphere and its changes, most congenial to the full development of the several beauties of these plants, by stating that an early vinery is exactly the place in which to grow Kennedyas. When the plants require shifting from the pots last mentioned, they should be turned at once into those it is intended to bloom them in; and it should be remembered that the larger these pots (so that the removal is effected early enough) the larger will be the plants, continuing to treat them as directed until they are about to expand their flowers, when a somewhat drier atmosphere will be better for them : this change must be brought about gradually, but certainly so that by the time the plants are in perfection, they may be standing in a cool and perfectly dry air, which will preserve their beauty for a long period.

The management of *Dillwynia* differs considerably from that just described, as they possess a far more robust character, and may be assimilated in treatment to heaths or the majority of Australian plants: they delight in sandy heath-soil interspersed with lumps of charcoal, broken potsherds, small stones, roots, and other matters conducive to the maintenance of an open porous soil, through which water and air may freely percolate. If the above conditions are fully observed, there is perhaps no plant which may be grown to greater advantage under the treatment usually denominated the "large shift system." Placed at once from a 60 into a 16-sized pot, and allowed an abundance of air from the earliest favourable opportunity until the decline of autumn, it is surprising the advance a plant of this nature will make: a luxuriant vigour is imparted quite unknown to those grown in small pots, even though they are shifted with the greatest care through all the intermediate sizes.

A point of the most immediate consequence to the production of handsome, well-filled specimens is the constant removal of the terminal buds of the growing shoots; it should be done as often as the new stems have shot forth two or three joints. This stopping, as it is called by gardeners, throws additional strength into the parts already formed, and induces them to protrude other shoots from the lateral buds situate in the axil of each leaf; thus the number of stems may be increased to an almost indefinite extent, moderating the flow of sap by directing it to other new channels, and in effect causing easily matured, short-jointed wood, which is certain to be prolific of flowers. Some little attention is also necessary in the training of these plants: if taken in a young growing state, they may easily be made to form neat, compact, and really beautiful objects; and it is only neglect while they are small that causes the unsightly, straggling things too often met with. We have sometimes seen *D. glycinifolia* spread over a trellis, presenting a prim, formal appearance, quite out of character with the naturally graceful habits of the plant, which, by an observance of what we have just advanced respecting "stopping," may be had quite as shrubby as any heath.

It is only necessary further to remark, that owing to the extreme tenuity of the roots of this genus, much care is required to preserve them from injury, through any excess either of drought or moisture. The drainage and preparation of the soil already recommended will effectually prevent any mischief arising from the latter cause; and while standing in the greenhouse it is only necessary to observe them attentively every day, and supply water whenever the mould appears to be dry. It is, however, sometimes necessary to remove plants of this character from the greenhouse during the summer months, in order to allow space for other flowering kinds, that the gaiety of the place may be maintained; and it is under circumstances of this nature that Dillwynias require particular care, on account of the danger likely to accrue from the effects of intense sun-light either on the plant itself or on the pots; the one causing too great an evaporation of the foliage, and the other by drying the soil preventing the due supply of nutriment by the roots. To obviate this some slight description of shading should be provided for the head of the plant, and the roots may be protected by plunging the pot into some non-conducting material, such as moss, old tan, or ashes; or if the situation will not admit of so unsightly a means, let another larger pot encircle the one in which the plant grows, and fill the interstice with damp moss: this will preserve them uninjured, and render the frequent application of water less necessary.

ON GRAFTING THE CHINESE AZALEA.

In calling the attention of the readers of *The Florist's Journal* to the subject of these remarks, I am actuated by the hope that it may assist in bringing this handsome tribe of plants more prominently forward, particularly amongst amateurs. I cannot understand why they have been allowed to remain so long in the back ground, for it is notorious that you may go into a great number of gentlemen's places at the present time, and find only a miserable specimen or two of *Indica alba* and *Phœnicea*, or perhaps none at all, while by the amateur cultivator they seem to have been entirely overlooked. As I before said, I cannot understand the reason of this; it cannot be that they are of difficult cultivation, for that is decidedly not the case; neither can it be their price, for it is rarely that the price of a new one is half so much as that of a new pelargonium, yet I never saw a pelargonium that I could admire half so much as I have well-bloomed plants of *Azalea variegata, A. Gledstanesii* and others. I am well aware my taste in this particular will be questioned by some, but I think the effect before noticed may be partially accounted for by the precarious existence of some of the best varieties; the reason of this I shall not now attempt to explain, or I should trespass too far on your valuable pages, but shall proceed at once to suggest a remedy for this admitted evil. That they are so is too well known to myself and others: the remedy consists in grafting or inarching the Chinese varieties on some more durable and luxuriant growing kind, such as *Phœnicea* or *Indica alba* (I prefer the former as a stock, but in its absence would not reject the latter), or strong growing seedling plants of either kinds, which may not be worth retaining, as distinct varieties may here be made to serve a very useful purpose. The first week in July is the time I select for performing the operation in the following manner: — for grafting choose as many stocks as it is intended to work, having the cuttings ready; with a sharp knife make a slight incision in the stock downwards, being very careful not to cut the piece of bark off;

then cut the scion wedge-shaped, place it in the incision of the stock, letting the bark of the stock and that of the scion meet on one side, or if on both the better; then with some wet bast bind up rather tightly the dissevered bark enclosing the scion, and the job is done. Two three or more may be placed on one stock, which will then form fine bushy plants in a short time. They should be placed in some warm moist pit or house. The place I select for that purpose is under hand glasses in the tan-pit of a vinery. The heads of the stocks should be reduced gradually as that of the grafts advance in size. Large plants may be worked in the manner here pointed out, by studding them all over with one or more kinds. I can scarcely imagine a more beautiful object than a large plant would be with the first three under-mentioned kinds in bloom at one time. The following are a few of the best sorts for grafting:—*Azalea variegata*, *Gledstanesii*, *lateritia*, *Constantia*, *Greenii*, *amabilis*, and *carminata*. I am well aware that the practice here described is known and followed by many gardeners; but believing it is not so well known as it ought to be, is my reason for troubling you with these remarks. E. A. HAMP.

South Lambeth.

ON THE CULTURE OF CINERARIAS.

IN few plants are so much interest combined with easy management to be found as in the varied members of the genus Cineraria, lasting, as they do, in bloom for such a length of time, and producing such a variety of colour. The greenhouse, or even the windows of the amateur's sitting-room, may be made attractive through a great part of the winter and all the spring months by the brilliancy of these interesting objects. They are increased either by means of seed or cuttings. If the former mode is pursued, the seed should be sown in small pans as soon as it is collected; the soil most appropriate for the germination of the seed is a mixture of loam and leaf mould in equal parts, adding a good portion of silver sand. The pans should be placed on a gentle bottom heat, giving them a moderate watering, and as soon as the plants begin to make their appearance they may receive a good portion of air during the day. When they have attained sufficient size to handle without injury, they should be potted, putting each plant separately into a 60-sized pot, and placed in a cold frame or pit. About the beginning of October I shift them into No. 32-sized pots; in these they remain until March, when they are placed in the pots in which they are intended to bloom, giving them an occasional watering with liquid manure. The compost used for this potting is a mixture of loam and dung in equal parts, adding a sixth of the whole of leaf mould, this should be used in a rough state, with thorough drainage in the pots. They are then removed to the greenhouse, standing them as near to the glass as possible. All flower-buds that make their appearance before February are pinched off, by which treatment the plants become bushy. If the leaves begin to curl examine them very minutely, and if any green flies are detected tobacco smoke is applied immediately, as this pest is a great detriment to the production of well-grown and healthy specimens.

In the cultivation of the Cineraria for the second season, when they may be said to attain perfection, the first step to insure fine healthy specimens is to cut off all blooming stems that may by any means make their appearance after the proper season for blooming; then give them a top dressing of light rich compost, and when this is done the plant should be removed from the greenhouse to a shaded situation in the open air, near to a north wall, where they will require to be liberally supplied with clear water — in fact, never allowing them to become thoroughly dry. Here they may remain until the middle of autumn, when the previous winter treatment should be repeated.

In summer, when the plants have thrown out plenty of new shoots, cuttings may be taken from those kinds most desirable to increase. In preparing the cuttings, all that is necessary is to remove the lowermost pair of healthy leaves, then cutting it close to the joint with a sharp knife. The soil best adapted for the growth of the cuttings is a mixture of loam and leaf mould in equal parts, adding a good portion of sharp sand; insert the cuttings in this compost, pressing it firmly round their base; give them a moderate sprinkling of water, and then place a hand-light or frame over them immediately, and they will not require much more care except shading from the sun. When water is applied it should be given in the evening, or in cloudy weather, and the glass may be taken off on fine dewy evenings, but must be replaced before the plants become dry in the morning. The potting of these new plants should be performed as soon as it is known that roots are emitted in the manner described for seedlings, and their after treatment, may be assimilated in every respect.

Amicus Floribus.

LIST OF ORCHIDEÆ.

(*Continued from* p. 66.)

295. *Oncidium ornithorhynchum.* Plant pseudo-bulbous; bulbs nearly three inches long, and a little more than one inch broad, oblong, glabrous; leaves in pairs, one foot long, and a little more than one inch broad, lanceolate, acute; flowers produced on a long, slender, half-pendent spike, much branched; flowers pale purple; petals oblong, obtuse; sepals nearly equal, oblong; column denticulate; labellum having the tubercles upon the breast yellow; the flowers are small, but very fragrant, and densely crowded on the spike. This species ought to be in every collection, and well deserves the attention of every cultivator of this tribe of plants. It requires suspending from the roof of the house in a basket well drained, and a compost of turfy peat and sphagnum, well chopped and mixed with small potsherds; it should also be liberally watered while growing, and have a temperature of from 65° to 70°. — *Native of Mexico.*

296. *Oncidium hians.* Plant pseudo-bulbous; bulbs half an inch long, same in breadth; leaves single, erect, crisp, 6 inches long, lanceolate, acute; flower-spike one foot long, a little branched; flowers of a pale straw yellow, destitute of spots; the growth is the same as O. Harrisoniæ. This species requires pot cultivation, with a free drainage, and a compost of turfy peat, sphagnum, and small potsherds; very little water is required during any stage of its growth; the temperature same as the above. — *Native of Brazil.*

297. *Oncidium cornigerum.* Plant pseudo-bulbous; bulbs oblong, furrowed, 3 inches long and 1 inch broad, cylindrical; leaves single, oval, acute; flower-spike 8 inches long, few-flowered; sepals and petals yellow, spotted with brown; the latter ovate, concave, undulate, obtuse, inferior and narrow towards the base; labellum lobed, linear, and horned. This species also requires pot cultivation, with the same treatment and temperature as O. hians. — *Native of Brazil.*

298. *Oncidium flexuosum.* Plant pseudo-bulbous; bulbs oval, compressed, 2 inches long and 1 inch broad; leaves in pairs, oblong, lanceolate, generally from 8 to 10 inches long and 2 inches broad; flower-spike 2 feet long, branched; flowers numerous; sepals pale yellow, spotted with brown, oblong, obtuse; petals obovate, undulate, same colour as the sepals; labellum yellow, lobed, and nearly round. This species is well deserving the attention of cultivators, particularly on account of its easy growth and free flowering; it

should be placed near to a damp wall of the house, and allowed to fasten itself there; this, with a frequent syringing during the hot summer months, will cause it to grow luxuriantly. For pot cultivation it will require a free drainage, and a compost of turfy peat, sphagnum, and small potsherds, and a liberal watering while growing, in a temperature of 65° to 70°. — *Native of Brazil.*

299. *Oncidium flexuosum var. majus.* This is only a larger variety of the former; the colour of the labellum is a brighter yellow; treatment and temperature the same. — *Native of Brazil.*

300. *Oncidium ciliatum.* Plant pseudo-bulbous; bulbs ovate, compressed, 2 inches long and 1 inch broad; leaves single, linear, oblong, obtuse; flower-spike erect, flexuose, few-flowered; sepals and petals greenish yellow, spotted with purplish brown, or approaching to a sanguineous colour; labellum yellow. This species requires pot cultivation, with a free drainage, and a compost of turfy peat, sphagnum, and potsherds, with a moderate supply of water, and a temperature of 65° to 70°. — *Native of Brazil.*

301. *Oncidium pumilum.* Plant destitute of bulbs; leaves rigid, oval, oblique, erect; flower-spike 8 inches long; flowers yellow; sepals and petals obovate, incurved; labellum three-lobed; lobes ovate, obtuse. This species is of a dwarf growth, but a free flowerer; it requires pot cultivation, with a free drainage, and the same treatment and temperature as O. hians. — *Native of Brazil.*

302. *Oncidium citrinum.* Plant pseudo-bulbous; bulbs 4 inches long and a little more than 1 inch broad, of a pale green, scantily marked with brown; leaves in pairs, 1 foot long, crisp, erect; flowers produced upon a spike, of various lengths; sepals and petals yellow, spotted with brown; labellum yellow, but very pale. This is a fine species, but rather difficult to flower; it requires pot cultivation, and the same treatment and temperature as O. cornigerum. — *Native of Trinidad.*

303. *Oncidium stramineum.* This species is very handsome, and well worthy of cultivation; its flowers are of a pale straw yellow, spotted with purple. For treatment and temperature it may be referred to the last. — *Native of Mexico.*

304. *Oncidium leucochilum.* Plant pseudo-bulbous; bulbs 3 inches long and 2 inches broad, grooved, tapering a little towards the summit; leaves in pairs, 18 inches long and 2 inches broad; flower-spike 9 feet long, much branched; sepals and petals green, spotted with brown; labellum pure white. This species ought to be in every collection; its flowers are handsome, and remain in perfect beauty for a great length of time; it requires pot cultivation, and a compost of turfy peat, sphagnum, and small potsherds, a good drainage, and a liberal watering while growing, with a temperature of from 65° to 70°. — *Native of Mexico.*

305. *Oncidium Harrisoniæ.* Plant pseudo-bulbous; bulbs subglobose, one-leaved, crisp, erect, of a whitish green; flower-spike 1 foot long, branched; flowers not very showy; the sepals and petals pale yellow, spotted with purple; labellum yellow, and spotted in the same manner. This species is not very handsome, but still is worthy of a place in a general collection; it requires the same treatment and temperature as O. hians, to which it is very similar in habit. — *Native of Brazil.*

J. Henshall.

(*To be continued.*)

HORTICULTURAL ESSAYS,

By the Members of the Regent's Park Gardeners' Society.

ON THE CULTURE OF AZALEA INDICA.

By Mr. T. DAVIS.

THE beauties of this interesting group of plants, which so admirably adorn the greenhouse in the early months of spring, expanding their many shaded flowers, from the light and delicately marked variety of *Gledstanesii* to the richly tinted purple of *Magnifica* and *Purpurea grandiflora*, and the brilliant carmine of *Lateritia* and *Danielsiana*, render them universal favourites. What can surpass the delicacy of *Indica alba*, clothed in its mantle of loveliness, gemmed with the coruscations of its beauty, decked with its snowy brightness, and reflecting its brilliancy on every vegetable form around it!

This interesting genus derives its name from *azaleos*, dry, arid habitation. It belongs to Pentandria Monogynia of Linnæus and the natural affinity Ericæ, section Rhodoraceæ. A. Indica appears on record as the first species introduced into England from China, in 1808, and many of the most beautiful are of much more recent introduction; but the greater number of those which are now distinguished as the most ornamental, are seminal and intermediate varieties.

Amongst the primary considerations which affect the well-being of plants generally, those which relate to the suitability of soils and their practical application, rank the foremost; as such, the first remarks will be explanatory of those points.

POTTING AND SOIL. This operation should be performed immediately after the season of bloom, thereby aiding artificial stimuli in the production of a vigorous and luxuriant growth, by the observance of which the cultivator will be more amply repaid than when the operation is delayed till a later period. The soil most suitable for potting should be six-eighths of well pulverised heath-mould in which vegetable matter predominates, one-eighth of light sandy loam, and one-eighth of sand. The shift most appropriate must be regulated according to the plants and the condition of the roots. Previously to this process, attention should be paid to removing all the flower stems immediately after the flowers decay, as the continuance of these, by the formation of the seed-vessels, would materially impair their ultimate vigour.

As one of the most important points upon which the success of cultivation depends is invariably connected with a correct arrangement and proportion of the soil, &c., in potting, and as tender fibrous-rooted plants are more liable to be affected by this operation being injudiciously performed than others whose roots are of more vigorous habit, too much stress cannot be laid upon a strict attention to every precaution which is calculated to insure an uniform circulation of the nutritive matter; for it is principally the absence of this condition that causes a superfluity of moisture, which acting upon the spongioles by rendering them incapable of absorbing the elements of nutrition, these conditions must inevitably produce an impaired vigour and premature decline. The vital principle of plants depends upon the co-operation of their organic functions with the agencies that surround them.

The varieties of Indian and Chinese Azaleas, in common with all other plants, whose roots are of a delicate and hair-like texture, should in the process of potting be freely drained. And in this respect the amount of drainage should be regulated according to a natural division which may be observed in the genus; namely, those which partake of a semi-evergreen and robust habit and those which are constitutionally smaller, and more strictly deciduous. The former requires larger pots, and a proportionate amount of drainage, and the latter in connection with smaller growing varieties require smaller pots and drainage in proportion.

It should also be observed, that in repotting, the axis, or connection of the stem with the roots of the plants, should be raised above the surrounding soil; for, as the action of atmospheric and solar agencies are the stimulating causes of vegetation, all other precautions are unavailing where an uniform degree of those agencies is wanting.

TREATMENT DURING GROWTH. In respect to growth, this genus more than most others adapted to the greenhouse department, is especially characterised by its capability of enduring a very high and intense heat; and which, during this stage of management, is essentially requisite to produce luxuriant growth: a forcing house or the cool end of a stove where ventilation is given, and the heat maintained at from 75° by day to 60° by night, will be suitable at this period. It is almost unnecessary to add, that a good exposure to light, by not being overcrowded, is also of great importance, and when atmospheric moisture, by means of evaporation, cannot conveniently be maintained during growth, syringing morning and evening, previous to and after sun-light, will be found beneficial to their vigour and cleanliness.

TRAINING. The most suitable period for obtaining lateral growth is as soon as the circulation of sap becomes vigorous, whether as regards pruning back the mature wood, or shortening the premature fore shoots; therefore, where a deficiency of form occurs in the habit of the plants, as soon as the luxuriant shoots have attained two or three inches in length, the top bud or joint should be pinched off or removed with a sharp knife, which, by disposing to side growth, will tend to produce a dwarf, bushy habit.

SUMMER EXPOSURE. When the growth has attained its maturity, the admission of air should be increased, or the temperature of the house lowered for a week or ten days, to prevent any check on their removal; after this period they should be removed to a cool greenhouse, or vinery, or deep pit, for a few weeks: by the middle of July, the season's growth will become fully ripened, and they may then be placed upon an open border of east or west aspect, admitting of shelter from wind, and from the drip of trees, &c.; they should then be occasionally syringed to remove all dust or insects that may have accumulated on the foliage.

TRAINING AFTER GROWTH. As many of the varieties are naturally of a pendent or lax habit, it will be found that the final disposition or arrangement of the branches for the display of bloom will be most readily effected immediately after their mature growth, according to the object the cultivator may have in view, whether intended for pyramidal, horizontal, or fan-shaped display; but one feature should be deemed essential whichever of these forms be preferred, namely, such an arrangement of the lower branches over the margin of the pot, as will hide its formality, and add a graceful effect to the individual character of each plant.

AUTUMNAL AND WINTER TREATMENT. Towards the latter end of September, the flower buds will be formed, and the season arrived for the removal to their winter position, which, when convenient, should be a close vinery or greenhouse. During this stage of their management until spring, they require a good exposure to light, and air only admitted in mild, dry weather. This treatment specially refers to the more delicate and partially deciduous varieties, such as *Aurantia superba*, and the varieties of similar habit, with *Lateritia*, *Gledstanesii*, *Variegata*, &c. The general adaptation of *Azalea Indica* for ordinary greenhouse treatment, and its varieties, will be found exactly in proportion to their robust habit and sub-evergreen character, of which *Phœnicea*, *Triumphans*, *Speciosissima*, and *Caryophylliflora*, form suitable examples.

The most critical point of management during this season is the caution required in watering, but this difficulty is easily overcome by a strict attention to the division previously named, which suggests the following general rule, that the amount of moisture required whilst in a dormant state is exactly in proportion to their robust and sub-evergreen, or partially deciduous habit; thus the former are capable of assimilating more moisture than the latter, and *vice versâ*.

TREATMENT DURING BLOOM. About the month of February the plants will manifest tokens of growth by the progressive development of bloom. As these symptoms advance, an increase of air and water will be requisite, and also as the weather and sun-light permit, a gentle but early syringing will materially benefit them.

As regards the temperature during this period, it will perhaps be best understood by saying, that a situation, when they are kept a few degrees warmer, and closer than an ordinary greenhouse generally admits, will be most suitable; but should that be the only convenience, they should then be placed so as not to be subjected to an undue exposure to air; by being thus kept a few degrees warmer, no check will be experienced. From the time that the blossoms begin to show their colour, the plants should be removed to an intermediate or forcing house, when they will expand much finer than when retained in a greenhouse temperature, and during which a dry atmosphere must be maintained, as the purity and delicacy of colour would otherwise be destroyed. When the bloom is well expanded, the plants should again be gradually prepared for a cooler situation, by either diminishing the heat of the house in which they have bloomed, or removing them to a greenhouse, which will, if required, admit of their being kept close and partially shaded, as a cool temperature with partial shade from intense sun-light is indispensable to the prolongation of their beauty. It will be almost unnecessary to remind the cultivator that brilliancy of colour will be greatly enhanced by an exposure of the plants during the expansion of bloom to intense light; therefore when individual specimens are required for the purposes of exhibition, a much greater elevation of the plants (with shade during intense sunlight) will be the best means for attaining such an object.

Propagation. These Azaleas are readily multiplied by cuttings, planted in equal portions of peat and sand, and covered with hand or conical glasses until struck, and also by grafting and inarching; the latter is mostly resorted to as a means of adding vigour in those varieties whose growth is naturally weak. As a general rule, from whatever cause the debility or weak growth of certain varieties may arise, it may be assumed, perhaps, in all cases, that a constitutional vigour is imparted by their union with more robust varieties. That division of which *Lateritia*, *Gledstanesii*, and *Variegata*, form the type, will be readily recognised as adapted to the foregoing remarks, by their naturally small and slender habit of growth.

Properties. The honey obtained from A. pontica is possessed with powerful narcotic qualities, and is recorded by Xenophon to have caused the deaths of several soldiers in the famous retreat of the ten thousand Greeks.

Diseases. The most common disease to which the genus appears subject, is a species of fungi making its appearance on the underside of the leaves, which may in general be attributable to excessive moisture, acting upon an impeded circulation of sap in the leaves, &c., and which may be further assigned to an " undue action between the atmosphere in which they are placed, and the absorbing power of the material in which they are grown." From the foregoing remarks the cultivator will now readily perceive that a strict attention to due proportions of soil in potting, to maintaining an uniform temperature during the progressive stages of growth, and to the proper state of the atmosphere during such growth, are the only sure means of securing a healthy and vigorous condition of the plants. An eminent cultivator*, speaking of the diseases to which this genus in common with others is liable, recommends the following as being efficacious in the destruction of the *thrips* and other insects: — "Take a peck and a half of soot, and put it into one hogshead of soft water, stirring it well with an old broom or batten, every day for ten days or a fortnight; then strain off the water through a fine sieve or piece of canvas into another tub, on a peck of charcoal, and drop into it afterwards one or two lumps or about three pounds of fresh lime, in about two days after strain it again, and it is then clear enough to syringe with."

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* Mr. J. Barnes of Bicton, in the "United Gardeners' Journal."

Pine-apple Place.

LIST OF NEW PLANTS.

ACANTHACEÆ.—*Didynamia Angiospermia.*

Aphelandra aurantiaca. This is the handsomest stove shrub that has been introduced for a long time, and, in the estimation of cultivators, must class with Ixora coccinea, Aphelandra cristata, the Hindsias, and other front-rank species.

It was exhibited at a late meeting of the Horticultural Society, by Mr. Henderson, of Pine-apple Place, under the title of Hesemasandra aurantiaca, a name not to be found in any botanical books in our possession. Can it be Schrader's *Synandra amœna*, the *Aphelandra ignea* of Nees Von Esenbeck? concerning which we find nothing beyond the names in Dietrich's "Synopsis Plantarum." We have only seen it on the occasion just alluded to, but we could not then perceive anything to separate it from the well-known genus Aphelandra, and thither it is accordingly now referred.

Colourers are quite unable to give the soft and brilliant glow of the rich orange-coloured flowers, which may perhaps be compared with that of the ripest side of a Brussels apricot when coated by varnish.

The general character of the plant is somewhat more robust than that of *A. cristata*, and it is presumed to be a native of South America. — *Bot. Reg.* 12—45.

Ruellia lilacina. The stove of the Royal Botanic Gardens of Kew is indebted for this handsome Ruelliaceous plant to Mr. Glendinning, of the Chiswick Nursery; but of its native country, I regret I can learn nothing. Its fine dark and glossy foliage, with large full lilac-coloured flowers, which are produced from time to time during the greater part of the summer months, renders it well worthy of a place in the hothouse.—*Bot. Mag.* 4147.

GENTIANACEÆ. — *Pentandria Monogynia.*

Eustoma exaltatum. It appears from the researches of Dr. Grisebach, that Lisianthus Russellianus, this plant, and another or two like them, constitute a peculiar genus, which Mr. Bentham called Urananthus, but which had been previously named Eustoma by the late Professor Don. It is therefore necessary to cancel the common name of this plant in favour of that now given. Under the designation of Lisianthus glaucifolius, the species is circulating among gardeners as something new; but it is in truth a species respectable for its antiquity, having been described years ago by Lamarck, under the name of Lisianthus exaltatus, and by Jacquin as L. glaucifolius.

The blossoms resemble those of Eustoma (Lisianthus) Russellianus except that they are smaller, and the foliage is very neat; the greatest fault in it is its stiff, naked-branched habit. It is a native of various parts of North America, and requires to be treated in the manner usual with Russellianus. — *Bot. Reg.* 13—45.

Marantaceæ. — *Monandria Monogynia.*

Calathea villosa. A native of Demerara, whence it was sent by the Chevalier Schomburgk to Messrs. Loddiges, with whom it flowered in July, 1843. It has very shaggy leaves, and long, cylindrical-formed flower-spikes, from which proceed a number of curious yellow flowers; it is a very tender stove plant, requiring an average temperature of 70°. — *Bot. Reg.* 14—45.

Myoporaceæ. — *Tetrandria Monogynia.*

Myoporum serratum. A native of Tasmannia, where in cultivation it becomes a pretty, round-headed shrub, whose flowers are succeeded by blue fruit. In our gardens it forms a neat bush loaded with a profusion of white flowers, as large as those of hawthorn, and spotted with purple. It is a greenhouse plant, which should be potted in sandy peat, such as heaths are generally grown in. During summer an ample supply of water should be given, and air at all times, when the weather is favourable. For a few weeks in winter, water once or twice a week will be sufficient. Fire-heat should never be applied, except to keep off frost. — *Bot. Reg.* 15—45.

Scrophulariaceæ. — *Didynamia Angiospermia.*

Penstemon gentianoides var. diaphanus. This is a very handsome and nearly hardy perennial, growing two or three feet high in any good rich garden soil, and becoming rather woody next the ground. It differs from the well-known *P. gentianoides*, in having rather larger flowers, which are almost colourless on the under side of the tube, which is, moreover, so thin as to be semi-transparent, and to allow the filaments to be perceived through it. It was raised from seeds received from G. F. Dickson, marked from the Terra Fria of Mexico. — *Bot. Reg.* 16—45.

Amaryllidaceæ. — *Hexandria Monogynia.*

Phædranassa chloracra. This plant has recently been removed from Phycella by Dr. Herbert, who has given it the present name on finding it constitutes a peculiar genus. It is one of the curious bulbs met with by Mr. Hartweg in Peru; the flowers are crimson and green, intermingled with yellow; they are numerously produced in the manner of Phycella, and like that genus it requires greenhouse treatment.—*Bot. Reg.* 17—45.

Leguminosæ. — *Decandria Monogynia.*

Aotus gracillima. A very elegant Swan river species introduced to the Royal Gardens of Kew by Mr James Drummond. Besides its glabrous branches and foliage, it may at once be known from the old *A. villosa* by the very copious flowers, so abundant on the branches as to conceal the leaves of a great portion of the branches. Thus its beauty will recommend it to every greenhouse. It is a rather tall-growing, slender shrub, with twiggy branches; the leaves are small and narrow, and the flowers are produced two or three from the axil of each leaf for a considerable distance up the stems, so as to form a dense cylindrical mass of many inches in length, of a lively yellow colour, spotted with red. — *Bot. Reg.* 41—46.

ORCHIDEÆ.—*Gynandria Monandria.*

Oncidium bicallosum. An inhabitant of Guatemala, whence it was introduced to our stoves by Mr. Skinner. There exists a great similarity between the present plant and *O. Cavendishianum*, and *O. pachyphyllum*; the three indeed appearing to be merely varieties of the same form. *O. bicallosum* has no pseudo-bulbs, the foliage is large, singularly thick, and carinate; it has a very long peduncle rising from the base of the leaf, and bearing a many-flowered panicle which varies much in size and ramification. The flowers are large and handsome, yellow, slightly tinged with green on the sepals and petals; these are all spreading and obovato-spathulate, but not equal; the lip is large, three-lobed, the middle one very large, and slightly divided at the apex. It is a free-flowering and desirable species.—*Bot. Mag.* 41—48.

SOLANEÆ.—*Pentandria Monogynia.*

Lycium fuchsioides. A very handsome plant, attaining a large size, possessing fine ample foliage, and producing a copious display of large brilliant orange-scarlet flowers. It was raised in the Royal Botanic Gardens of Kew, from seeds, sent by Dr. Jameson, from Azoques in the Quitinian Andes, where it is used by the natives for fences.—*Bot. Mag.* 41—49.

BROMELIACEÆ. — *Hexandria Monogynia.*

Barbacenia purpurea. This beautiful little plant was the first of the genus known in this country, and is a worthy companion of the orange-red flowered *B. squamata;* the seeds were accidentally discovered by the Hon. and Rev. W. Herbert, of Spofforth, amongst a quantity of Brazilian moss. Mr. Gardner, in his recent exploration of that country, met with it near the foot of the mountains about two miles south of the town of Rio Janeiro. It there grows abundantly in places where a little vegetable mould has accumulated, amongst which it vegetates and blooms with the utmost luxuriance. All the leaves spring from near the same point, forming a tuft round the base which scarcely elongates into a stem. They are of a very rigid nature, and differ from those of *B. squamata*, in having larger and more distant spinous serratures at their margins. The plant is also distinguished by the flower-stalk being considerably longer than the leaves, and by the deep rich purple colour of the flowers. A warm moist atmosphere, and a proportionate and uniform degree of heat about the roots in the growing season, together with a porous soil, partly composed of well-rotted leaves, through which water can easily pass, and any excess drain away, seem to be the essential elements in the maintenance of a high state of cultural perfection. — *Pax. Mag. Bot.*

EPACRIDACEÆ. — *Pentandria Monogynia.*

Styphelia tubiflora. Long known to British collections, but seldom seen in a state of perfection, owing to a difficulty experienced in its management, by the old system of employing small pots and finely-sifted mould. The general aspect of the plant is not strikingly dissimilar from many species of the kindred genus Epacris; the stems are furnished with small leaves, which are sometimes linear-obovate and sometimes somewhat heart-shaped at the base; the flowers are borne all along the shoots of the previous season, and spring from the bosom of the leaves; they are remarkable for their handsome pendulous tube, and the delicacy of its rich crimson colour; and also for the rolled back segments of the limb being furnished with a fringe of numerous crimson hairs. Grown in a porous soil, with the treatment usual for Epacris, it will form a very handsome object throughout the winter months. It is a native of the neighbourhood of Port Jackson in New South Wales. — *Pax. Mag. Bot.*

TO CORRESPONDENTS.

One of Us.—Prune your plant of *Passiflora princeps* immediately, or the flowering will be very late, cut the weak straggling shoots back to within four or five joints, and shorten the strongest; it is seldom this species succeeds in a greenhouse, and probably the long continuance of severe weather we have experienced this winter has affected it — we shall always be happy to answer your inquiries.

J. G. S. — The traps mentioned in our last may shortly be procured in any quantity, at 82. Fleet Street; it is essential to perfect success that they be kept clean. You will find a selection of the best Pansies in the correspondence of the February No., to which we must beg to refer you.

A Subscriber.—Sow your Verbena Seed directly, some of it will probably vegetate at once, but the greater portion is more likely to remain months before it will appear—a gentle hot-bed is the best place for it.

T. S.—No. 6. of your seedling Cinerarias is the only one we should think of preserving; colour light cerulean blue, white centre, form and substance tolerably good.

An Inquirer.—The past winter has indeed been a severe trial for heating apparatus of all descriptions; so far as our own experience goes, we are even more strongly disposed in favour of tanks; we have them of wood, cement and iron, and all have done their work admirably, without trouble, and with but comparatively small expenditure of fuel.

An Amateur.—The following ferns will probably suit you; they are pretty, distinct, easy of management, and not expensive:—Polypodium aureum; Adiantum æthiopicum; A. iapillus Veneris; Pteris serrulata; P. hastata; P. chinensis; Blechnum occidentale; Asplenium bipartitum; A. flabelliferum; Nephrodium exaltatum; Aspidium molle.

CALENDAR FOR APRIL.

The severe winter, through which we have passed, has so retarded vegetation that nearly all hardy plants have still to expand their blossoms. Even the hazel has barely been able to loosen its yellow catkins to the breeze; and the snowdrop has hardly earned its name among the storms of this inclement season. To the collector of native specimens, therefore, the present spring will be a busy one, as nearly all the plants mentioned in the previous calendars for this year will still have to flower, whilst to those who like spring walks, (and who does not?)

the approaching months promise a richer variety than usual in the amount of vegetable forms in their most attractive dresses at one time. The number of additional species this month it is impossible to state, for, whilst Lindley and others make the number of native willows not above thirty, more than seventy distinct forms are figured in "English botany;" so much do the plants vary according to soil and exposure. Again, the primrose, cowslip, and oxlip, are generally considered as distinct, yet the Rev. Mr. Henslow has seen them all growing from the same root. Nearly the whole of our forest trees will flower during the present month; but, perhaps, a point almost as interesting in their economy as observing and securing specimens of their bloom will be found in noting the very great difference which occurs in the leafing of individuals of the same species. For instance, in a hawthorn hedge, or clump of oaks, very remarkable variations in the time of expansion and outline of the leaf may be noticed. The Glastonbury thorn and Cadenham oak are extreme instances.

The flower garden will be a busy spot this season. Hardy annuals should be sown, and herbaceous plants regulated, the grass and walks carefully looked after, and preparation made, as far as possible, for turning out the summer bedding plants. The destruction among these must be remedied, as far as possible, by continually propagating the survivors, and hardening them off as soon as well rooted. Half-hardy annuals should also be sown on slight hot-beds, taking care to *draw* the plants as little as possible.

Many green-house plants may be propagated this month, where it is desirable to increase the collection by such means, and shifting the plants must also be regularly attended to; but while avoiding to give the plants too small a shift, as some assume all old gardeners did, it will be as well, also, not to fill the houses with large pots and small plants: the medium in this, as in most other cases, will generally be found most satisfactory. A gradual increase of heat and air must also be allowed, taking care not to expose the plants to dry cutting winds.

In the stove, re-potting the plants must also go on, and, in conjunction with increased light, heat, and moisture carefully administered, the plants can hardly fail to progress favourably. Any foreign seeds should also be sown on hot-beds, plunging the pots in tan, sawdust, or other similar material.

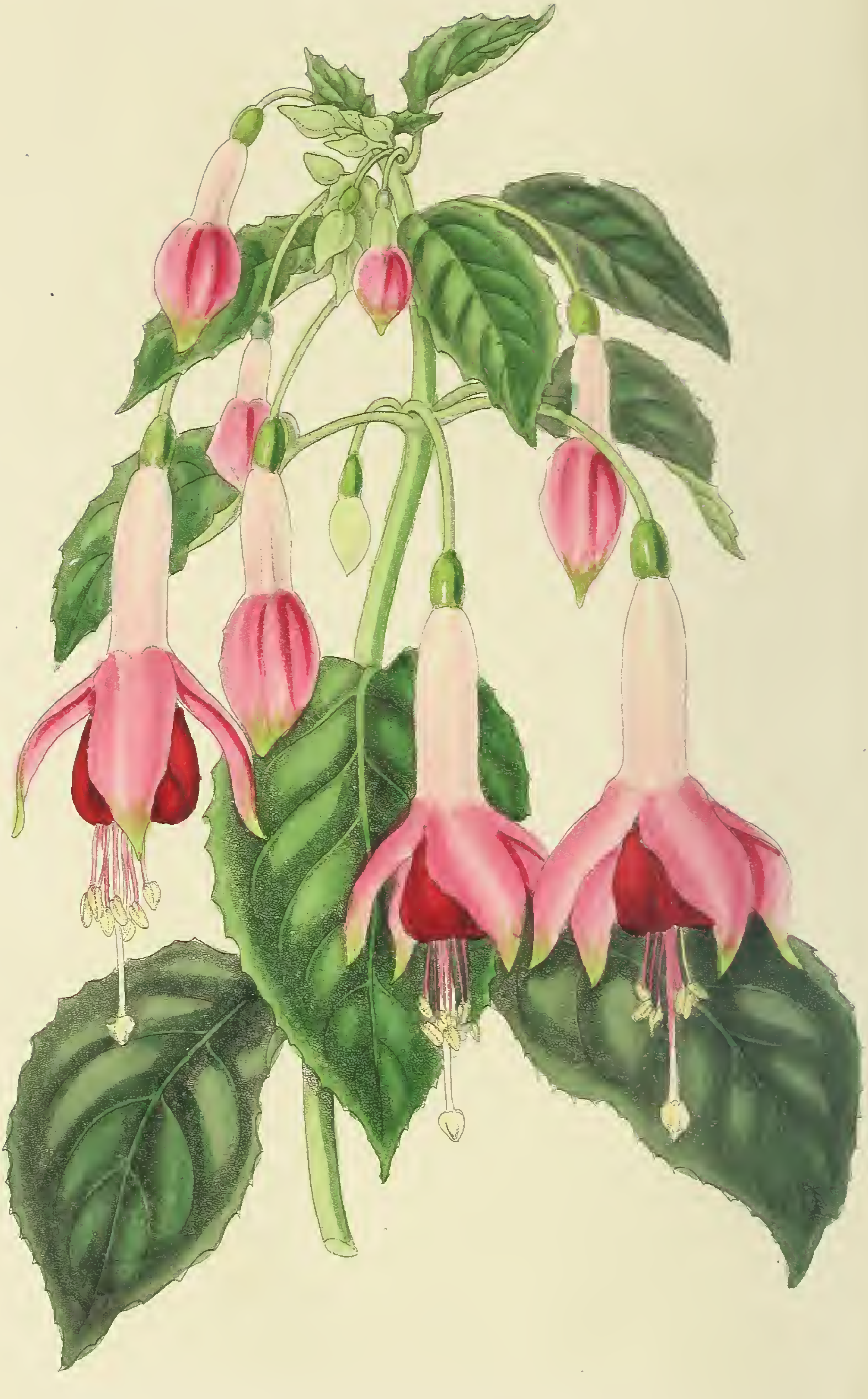
The time thrown away every year, in many places, in sowing and potting off plants raised from seeds received from various parts of the world is enormous; seeds of things long in the country, of no interest but to the botanist, or too large for ordinary houses, or that do not produce flowers under ordinary time or circumstances, form the bulk of these importations, and only lead to dissatisfaction and loss of time. The temperature should range from 80—85° by day to 60—65° during the night.

D. M.

Florist's Flowers.—Never, in any previous season, did the florist stand so much in need of a large stock of patience, as during the past month the weather has been "against every thing;" that patience must now be equalled by his perseverance, for much indeed has yet to be done. Auriculas will require an infinitude of care to recover them so as to bloom well; all the encouragement possible must be given them by the admission of air in the day, together with a proper supply of water, and careful protection at night; thinning the blooms, dressing, cleaning, and occasionally shading must be regularly attended. Finish potting picotees and carnations as speedily as possible, as also the pruning of roses. Examine minutely the foliage of tulips, in order to remove all appearances of gangrene, which should be cut clean away; it will still be necessary to protect them in cold weather. Young dahlia plants should be gradually hardened in cold frames, and others struck. The planting of all kinds of bulbs that have been delayed through the frosts must be brought to a close at once, or they will be lost, and extra exertion must pervade every department to recover our vantage ground.

P.

PLATE 7



FOWLE'S SEEDLING FUCHSIA VUURBERG

[illegible] by A. Adams for the [illegible] Journal [illegible] 84[illegible]

THE

FLORIST'S JOURNAL.

MAY, 1845.

ON FUCHSIAS.

WITH AN ENGRAVING OF FOWLE'S VUURBERG.

But little of a novel character connected with the management of Fuchsias has presented itself, so as to require particular notice since the last occasion we had for speaking on the subject; yet as the production of first-rate specimens of even these plants is not of universal occurrence, we have thought a *résumé* of the matter may not be uninteresting or without its use. It is now near eighteen months since we figured that beautiful variety "Gigantea," which still maintains its place as a most desirable object in every collection; and in that period we are gratified to observe the attention they have arrested, which must lead to the production of varieties yet undreamt of. Horticultural Societies are now, and must ever continue, offering prizes for them as regularly as for any other florist's flower; the effect of which will be an increasing desire on the part of the culturist not only to obtain new kinds, but also to realise perfection in those he already possesses.

Fuchsias are undoubtedly plants of the easiest culture, where the necessary conveniences are at hand, but unfortunately they are too often regarded as of but secondary consequence—mere accessaries,—and thus have to bear with indifferent attention in the worst situation of the house — tolerated as it were in only such places that all other plants refuse. This is injudicious and unfair treatment, considering the vast accession of ornament derivable from the family; and we once fondly imagined that the presence of so many camellia, heath, and geranium houses as are to be seen would have induced ere this some lover of the tribe to set a most honourable example by devoting a house to the exclusive management of these beautiful plants. It is unnecessary to enlarge on the highly ornamental feature such a structure would constitute, for that is obvious. There is indubitably a far greater variety of form and colours to be selected from among them than in either of the families named, to which a separate house is considered necessary; and we can only say we hope still to see it, feeling certain that when once adopted, and their beauties thus made apparent in the manner they deserve to be seen, the practice will soon become general.

The importance of providing a period of rest for mature plants, pointed out on the occasion before referred to, is more fully established by the experience of another season's management: those which were allowed to remain quite dormant through the entire winter exhibited a decided superiority over others subject to a continuous excitement; that it should be so, is no more than what a careful consideration of the native habits of the plant would have led any one to expect; and we shall not be surprised to find many other plants benefited to an equal extent by similar treatment. It must be explained, however, that it is not advisable to carry out this system of entire inactiveness quite so fully with young or small plants as with those which have produced flowers the previous season; or it may happen that from want of opportunity to complete a due store of nutriment they will fail to shoot again on the application of stimuli. This, however, is a matter in which a very little practical information will set any one right.

The use of peat for delicate growing kinds is gaining ground in the estimation of most growers, who find the general health of the plant much improved by it, which consequently induces a more copious display of flowers; and this, whether by its chemical properties, or by the additional vigour imparted to the plant, we will not pretend to say, have a richness and brilliancy of colouring far surpassing those of former years.

The system of removing them from small pots into the largest size they are intended to fill seems now to be universally conceded to, as the most appropriate method of insuring fine, large, and healthy specimens. At the commencement of the season the plants are usually induced to push forth their new shoots in as small a space as they can be conveniently got into. This is for convenience sake; and as soon as they are well established in these small pots, shifted at once into others large enough to supply their wants throughout the remainder of the season. Here the progress is astonishingly rapid for the first two or three months, and then the warm dry weather of summer is at hand to ripen the wood thus quickly formed, and to facilitate the required production of flowers.

Many opinions have been expressed as to the best mode of training fuchsias; our own is that those kinds possessing a naturally strong, erect habit, should be frequently stopped while young, to induce a bushiness, which moderates the vigour by causing an increase of the foliated, and so also of the flower parts, continuing to lead the new branches upwards, inclining to either side, so as to form a perfectly round plant; while on the other hand, those having a weak pendant character should be led up with a single stem to form the centre of the plant, and the lateral branches from it allowed to fall gracefully downwards. Annexed is a descriptive list of a few of the best varieties, both new and old; in which the latter character is distinguished by an asterisk.—Editor.

* *Albion.* Tube and sepals pale peach; corolla crimson, large size; free bloomer, dwarf habit.

Bridegroom. Tube and sepals pink; corolla light red, large size; free bloomer, vigorous habit.

Brixtoniensis. Tube and sepals crimson; corolla crimson, extra large size; abundant bloomer, medium habit.

**Coronet.* Tube and sepals buff colour; corolla carmine, medium size; free bloomer, vigorous habit.

**Exoniensis.* Tube and sepals crimson; corolla purple, medium size; abundant bloomer, pendent habit.

Expansa. Tube and sepals bright rose; corolla lilac, expansive, large size; free bloomer, medium habit.

Flamingo. Tube and sepals pale rose; corolla brilliant carmine, medium size; most abundant bloomer, vigorous habit.

Formosa elegans. Tube and sepals carmine; corolla blue, medium size; free bloomer, dwarf habit.

**Gigantea.* Tube and sepals deep rose; corolla crimson, very large size; free bloomer, vigorous habit.

**Lowerii.* Tube and sepals crimson; corolla blue, medium size; abundant bloomer, dwarf habit.

Magnet, Smith's. Tube and sepals bright vermillion; corolla bluish purple, extra size; free bloomer, medium habit.

Queen of the Beauties. Tube and sepals pale ochrous white; corolla purple-crimson, large size; free bloomer, medium habit.

ON THE CULTURE OF GOMPHOLOBIUM POLYMORPHUM.

My practice runs thus: — about the latter end of June, or the beginning of July, I take cuttings from the parent plants, making them in the usual way; and having well drained a wide-mouthed thirty-two sized pot, by whelming a smaller one over the hole at the bottom, and placing some rough potsherds round the small pot, then a layer broken much smaller, with some moss over the whole to prevent the soil intermixing with the drainage, I fill it with a mixture of peat, loam, and silver sand in equal proportions, spreading a layer of the sand over the top, which immediately receives a gentle watering to prevent its running into the holes made to receive the cuttings, and after the insertion of these I give the whole a good watering, and allow it to stand awhile to settle and become dry. I then cover them with a bell-glass, and plunge the pot into a moderately warm hotbed possessing a gentle bottom heat, being particular to keep the bell-glass as dry as possible by frequent wiping. In about six weeks they will begin to form new leaves, which may be regarded as an infallible symptom that they are protruding roots; and in three weeks or a month after this they may be potted off separately into thumbs, returning them to the hotbed, which should be kept close for a week or two, and then the plants may be gradually hardened off, to get them sufficiently strong to stand through the winter in a warm greenhouse. About the middle of February I remove them to the stove, where in three or four weeks they will require re-potting, placing them in large sixties, or forty-eights, continuing the stove treatment till May, when they are placed in the greenhouse again, keeping it rather closer than usual for a day or two, and gradually inuring them to the air, as with ordinary greenhouse plants. In June I again shift them, this time into twelve-sized pots thoroughly drained with potsherds and pebblestones, mixing a number of the stones with the soil, which should consist of sandy peat, and if it is not naturally so, it should be made such, by adding silver sand; and on no pretence must the cultivator ever think of sifting the soil, for the rougher it is the better. After the shifting is complete, a trellis is fixed to the pot on which the plant is trained, and I consider it will not require to be again shifted for two or three years, only enlarging the trellis as the plant may increase in size. By the above treatment I find that, in the course of two years, a fine compact plant may be obtained, particular attention being paid throughout the whole period to preserve it moderately moist.

Sidcup. GEORGE STANLEY.

CULTURE OF IOCHROMA TUBULOSA (HABROTHAMNUS CYANEUS).

THIS is a handsome, free-flowering, deciduous greenhouse or half-hardy shrub, growing about four feet high. It grows freely in an equal mixture of sandy loam and peat; but when the plants are young, they should be grown in a richer soil, in order to gain size and substance quickly. When they have attained a considerable size, they require to be kept rather dry, and to be stunted in the pots. A good way to treat the plant is to turn it when young into the open border in a very rich soil, about the end of May, to supply it abundantly with moisture during the summer, and to take it up about the end of September, pot it, keeping it in a close place for a week or two, to recover the shift; and then to place it in a rather dry situation, where it is secure from frost for the winter. About the middle of the following March cut it back rather freely, and top-dress the soil in the pots, but by no means re-pot it; allow it to start in a rather cool, but not very dry situation. As it advances, water more freely, and finally keep it rather close and damp to cause it to flower freely. It is easily increased by cuttings of the half-ripened wood, put in sand, and kept close in a warm situation. It blooms freely from July to October, having sometimes upwards of thirty flowers in a cluster. — *Bot. Reg.*

ON RAISING MARTYNIA FRAGRANS.

The frequent ejaculations of disappointment in the raising of this beautiful annual from seed, that are poured forth every season, seem to imply that its proper management is not yet clearly understood; some detailed remarks on the subject may, therefore, possess their interest, especially as it is not yet too late to be serviceable for the present year. It is, unfortunately, too well known that the ordinary treatment usual for plants of the same character, or what are commonly termed half-hardy annuals, fails of success when applied to the present subject; and what renders the difficulty most inexplicable is, that though other plants, even from the same locality, readily conform to their altered circumstances, yet the Martynia obstinately refuses to yield to the culturist's art, until subject to applications of the most strenuous nature; the horny envelope, of the plumule, defying all its attempts to force a passage until removed by artificial means, or the effects of an extraordinary stimulant. Observing in all the numerous cases of failure which came under my notice during the first season that my attention was directed to this plant, that the seed remained perfectly sound in the mould, although buried for months, I felt nearly certain that its removal would greatly facilitate the development of the embryo bud, if it was not, indeed, the only obstacle to its growth. Acting on this idea, I invariably cut away the greater portion of the hard, woody skin, carefully preserving the white cotyledons beneath from injury, and then apply a bottom heat, which, with any other vegetable form to act upon, might well be termed extraordinary. The place in which I have induced seeds of Martynia fragrans to vegetate freely for the last three years is nothing less than a hot-water tank, used to heat a small propagating house, the average temperature of the water in contact with the pot containing the seed being about 160°, frequently more; the seed is sown in light fibrous peat, and the pot plunged about half its depth into the water. Three weeks is the usual period required for the appearance of the plants above the surface of the soil, when they are immediately removed to other pots, and placed in a genial hotbed; and after another three weeks of attention in this place are gradually hardened, when they are capable of enduring almost any treatment; for, however difficult in the first instance to raise, there is scarce another plant so manageable in after-growth (except as regards dwarfing), and certainly none which repay the culturist with more specious or sweetly-scented flowers, than does the Martynia fragrans. Why do not gardeners turn their attention to the hybridizing of this genus?

HORTULANUS.

LIST OF ORCHIDEÆ.

(*Concluded from* p. 81.)

306. *Oncidium raniferum.* Plant pseudo-bulbous; bulbs one inch long, tapering a little towards the apex; leaves in pairs, three inches long and narrow; the flowers are produced on a spike, six inches long, branched, they are yellow; the sepals and petals being spotted with brown; the labellum is also marked with brown; the tubercules or crest have the appearance of a frog crouching, hence the specific name. A very singular little species, requiring to be grown upon a small billet of wood, with a little moss fastened about it; it may also be grown in small pots, with a compost of turfy peat, a little sphagnum, and very small potsherds; a very little water will be required during its growth, and scarcely any when resting; temperature 65° to 70°. — *Native of Brazil.*

307. *Oncidium Russellianum.* Plant pseudo-bulbous; leaves in pairs; flowers produced on a long spike; sepals and petals brown, intermixed with purple; labellum purple. This rare and lovely species is decidedly distinct from any other of the tribe; the flowers are very large; it requires pot cultivation, in a compost of turfy peat and small potsherds, with a liberal supply of water if a free drainage is underneath (which I particularly advise), and a temperature from 65° to 70°. — *Native of Brazil.*

308. *Phalænopsis amabilis.* Plant destitute of pseudo-bulbs, but composed of a number of leaves 5 inches long, and about 3 inches broad, oblong; flower-spike 2 feet long; flowers paniculate, and of a beautiful dazzling white; sepals a little more than 1 inch long, and half an inch broad, oblong, obtuse; petals nearly 2 inches long, and the same in breadth, suborbiculate, unguiculate; labellum three-lobed, the outer lobes ovate, obtuse, incurved; base lutescent; the middle lobe has a pair of horns resembling the antennæ of

an insect, placed at the apex, the 3 lobes are splendidly marked with purple at the base of each. This truly fine species is extremely scarce, and indeed cannot be purchased; its flowers will remain in perfect beauty for upwards of three months, but are devoid of scent. In cultivation it should be grown upon rough billets of wood, either with or without sphagnum upon them; but the plant will require dipping into water three or four times a day when in a growing state; temperature from 75° to 80°. It is also known as the *Epidendrum amabile* and *Angræcum album majus*, of some botanists. — *Native of Manilla.*

309. *Saccolabium guttatum.* Plant destitute of pseudo-bulbs; the leaves are distichous, or placed in two rows opposite to each other — long, falcate and abrupt, the ends having the appearance of having been bitten off; the flower-spike proceeds from the base of the leaves, and terminates in a long raceme of beautiful rose, pink and white flowers. This and the following species may be regarded as the handsomest of the whole tribe—*S. Blumei*, *S. præmorsum*, *S. giganteum*, and *S. denticulatum;* all of them partaking of the same character, though differing in the size of their flowers. They should be fastened upon rough oak billets with a little sphagnum; while growing, or at least from the latter end of April to the end of September, they will require watering or immersing in water two or three times a week, and syringing a little every day, which should be done towards the evening; but during the resting season very little water will be required; the temperature most suitable for them is from 70° to 85° or 90° by the aid of sun-heat. — *Native of India.*

310. *Stanhopea Martiana var. bicolor.* The genus Stanhopea has so lately been spoken of in the Florist's Journal, that it would be superfluous for me to enter on its management; and as my time here grows exceedingly short, I shall content myself with the description of the above new variety. Plant pseudo-bulbous; bulbs similar to those of the well-known *S. Devonianum;* the leaves, however, are much shorter, undulate, terminating in a sharp point. It is a most beautiful variety, and in the magnitude of its flowers is second only to *S. tigrina;* the sepals are straw-colour, gradually fading to nearly a pure white, faintly marked with clusters of little dots; the petals are white, with large spots of crimson; the labellum ivory white, having a slight discolouration near the base; the horns are long, and taper into a kind of tendril, and are parallel with the epichilium.

Vanda cristata, *V. teres*, and *V. Roxburghii* are most beautiful, nay magnificent plants, and I regret exceedingly that I have no opportunity for describing them; their fragrance is so delicious, as to render them deserving of the best care the cultivator can bestow; for management they may be referred to *Saccolabium* in every particular.

I conclude this list with the mention of that highly ornamental and fragrant genus *Zygopetalum*, too many of which cannot be grown. *Z. Mackayi*, *Z. rostratum*, and *Z. crinitum*, are perhaps the best of them. The whole are of the easiest management, requiring only to be potted in the usual mixture of peat and sphagnum, with plenty of moisture while growing, and to be kept in a temperature of about 65°.

J. HENSHALL.

[Our respected correspondent Mr. J. Henshall is, we find, about leaving England for Java, and other parts of the East, in search of these lovely and interesting plants. We are selfish enough to regret it on our own account, but most cordially wish him every success in his arduous undertaking, and beg to thank him for favours received: we shall, however, from time to time, look for many interesting communications respecting his journey.—ED.]

HORTICULTURAL ESSAYS,

By the Members of the Regent's Park Gardeners' Society.

NOTES ON THE CULTURE OF THE GRAPE VINE (VITIS VINIFERA).

By Mr. JOSEPH JORDAN.

A NUMBER of eyes, sound and bold, from a piece of well-ripened wood of the last year's growth, were potted on or about the first week in February, 1843, in 32-size pots, one eye in a pot; and as soon as they were well rooted in the pots, they were shifted into 24's, and kept in the same heat as before, which was from 60° to 70°: they were shifted when they required it, throughout the summer. Some of them were planted in the back border of a vinery; and in November 1843 they had made from 12 to 14 feet of ripened wood, which was cut down to about 10 feet; and in the present summer (1844) bore from twelve to fourteen bunches of fruit, each bunch averaging 1 lb. in weight: twelve vines were then planted, viz. one Black Prince, which bore thirteen bunches; one Black Teneriffe, fifteen bunches; two White Royal Muscadine, twenty-seven bunches; eight Black Hamburgh, twelve to fourteen bunches on each plant. The remainder of those that were raised were kept in pots and tubs, and this summer (1844) have made canes from 18 to 20 feet long, and very large; they are intended to be forced early in the present season, viz. 21st December, 1844, when they will be less than two years old from the eye. But they must have good rich soil all along, and manure water in summer.

In respect to fire heat, nature should be followed as far as possible, keeping them hotter by day than night. Now in the morning, after being cool through the night, the vines will have a small drop of water on the angles of their leaves, which is a certain sign of the plants being in a good state of health. About 55° by night is quite hot enough; they will sustain no injury at that heat, but will grow stronger than if they had a heat of 65° or more. They must have fire heat and air during the day, and have the house closed up warm, say about 65° or more, with little fire, as plants do not want so much heat when they are in a state of rest. If in mid-winter they must have more.

The Muscats this season were not forced at all; they were raised from eyes in 1841, and were planted in May 1842, and made shoots the whole height of the house, which is about 24 feet. In the winter of 1842 they were cut down to the bottom to give them strength, and in 1843 they made 35 feet of sound well-ripened wood, which was cut down to about 18 feet in the winter of 1843, and have this year borne a most excellent crop of good ripened fruit.

If the fruit is not wanted early, they had better not receive any fire-heat before they are in bloom, which will be about the middle of May. In April, when they break, they must be continually syringed, night and morning, till they are in bloom, and plenty of air given when the weather will permit: no fire should be given them but when they are in danger of frost. When the shoots are long enough, they should be tied to the wires with great care, and only one bunch should be left on each shoot. Those eyes that broke without fruit should not be pulled off, as is generally the case, but should be broken off at the second eye, which leaves the embryo bud at the base quite perfect, which would not have been the case had the shoot been pulled off. When they are in bloom, the house must be kept very hot without air, except on very still days, and when there is no wind: about 90° by day, and 65° or 70° by night. It should not be kept very dry, but the floor of the house should be watered night, morning, and mid day, if requisite, but not the flues or hot water pipes, as it would raise a great steam, and be injurious to the bloom. As soon as all of the bloom is set, and the young berries have begun to swell, syringing may be commenced again; it should be done in the morning, and in the evenings by half past four o'clock, closing the house at the same time. They should have plenty of air and fire, but not be kept so hot as when in bloom. Grapes set best in a hot humid atmosphere, but they must not be wetted over the leaves, for this would cause the bloom to be *abortive*, and not set kindly. Continue syringing till the grapes are of the size of large green peas, steaming the house by sprinkling water upon the flues or hot-water pipes.

When the grapes are well set, and about the size of large peas, begin to thin them, which should be done with great care, with a pair of small sharp-pointed scissors. Take care to touch the bunch or berries as little as possible with the fingers, but have a small piece of wire bent at one end, to hook hold of the bunch. The thinning should be completed as soon as possible, as it is at this time or near it that the fine beautiful bloom comes on; and when once disturbed, this never comes on so much again. Give them two or three good syringings backwards and forwards of the house, and then discontinue it: still keep the floor of the house wet, but do not wet the flues too much. Continue the fire heat and plenty of air till the grapes begin to colour, after which give them plenty of air by day, and on warm nights also, in front and top as well, when there are no signs of rain; but no fire, except on very dull days or in wet weather, and then it should be given by day, and air allowed at the same time to let off the steam from the flues or pipes. Observe at this time to keep the fruit very dry by firing, and giving air when required: these grapes may be kept till Christmas, or the second week in January. It will be necessary to go over them every few days, to cut out all decayed and damaged berries.

The border should not be more than 18 inches below the surface of the ground. It may be as much as 3 or 4 feet out of the ground, which is much the best way, as when the roots have any thing wrong with them, they can be the more easily examined. The border should be well drained by a drain up the middle, about 16 or 18 inches wide, and the same in depth, filled with a few branches of trees at the bottom, and brick rubbish over them. The bottom of the border should slope both ways to the drain, and have some brick rubbish at the bottom, which will take off all superfluous water; but where the border is so far out of the ground, it is hardly required.

The border should be made with the following compost, as near as it can be had:—Three quarters of top spit from an old sheep down (not more than 6 inches deep), or loamy pasture, one quarter of good old rotten dung; to this add one-tenth of the whole of good lime (not too hot), a small quantity of ground bones: bullock's blood, or drainings from a butcher's shop, is very good. If this cannot be got, use linseed cake, but very sparingly. Mix them well up together, but do not tread the soil down any more than cannot be avoided: allow for settling, and when the vines are planted, draw out the roots very carefully, and spread them in the ground near the top, as the roots like the air; give them a good watering when you plant them, and manure the border at top in winter, and fork it over in the spring.

Dec. 11. 1844.

LIST OF NEW PLANTS.

Lobeliaceæ. — *Pentandria Monogynia.*

Lobelia thapsoidea, syn. *Rapuntium thapsoideum*, *Geniostoma brasiliense.* Much as the genus *Lobelia* has been reduced in amount of species by the numerous genera that have been of late separated from it, especially *Siphocampylos* and *Tupa*, there are yet enumerated in De Candolle's Prodromus 173 species, and many new ones exist in the Herbariums of Botanists. Among the most remarkable of the genus for stateliness and showiness are the *L. uranacoma*, *L. exaltata*, *L. organensis*, and the present subject, which so far excels the rest, as to have obtained from De Candolle the epithet of "*lobeliarum princeps.*" Mr. Gardner, to whom our stoves owe the possession of this fine plant, gathered specimens measuring eight feet in height; the habit and foliage of the plant somewhat resemble those of our great Mullein *Verbascum thapsus* (whence the specific name). The rosy-purple flowers are produced on thickly covered, large, pyramidal racemes.—*Bot. Mag.* 4150.

Gesneriaceæ. — *Didynamia Angiospermia.*

Gesneria Schiedeana. This is another lovely addition to the many beautiful Gesnerias now cultivated in our stoves; it is remarkable for its richly-coloured blossoms, clothed with long shaggy hairs; their colour is a bright-golden scarlet; the limb variegated with red and yellow; the red arranged in broken lines. It is a native of Mexico, whence it was sent to Woburn, where it flowered in November, 1844. — *Bot. Mag.* 4152.

Scrophularineæ. — *Diandria Monogynia.*

Calceolaria floribunda. Our gardens abound in *Calceolariæ* from Chili and extra-tropical South America; but very few are known alive in this country from the tropical regions of the New World. The present handsome species is from the environs of Quito, where it was gathered by Mr. Lobb. It flowered in Mr. Veitch's establishment at Exeter in 1843. Although from within the tropics, and almost under the line, yet, the city itself of Quito being at an elevation of 11,000 feet above the level of the sea, this will probably prove a suitable plant for the greenhouse, and perhaps may flourish in the open air in the summer months. The flowers are globular, of a medium size, and bright yellow, resembling those of the old *C. integrifolia.* — *Bot. Mag.* 4154.

ACANTHACEÆ. — *Didynamia Angiospermia.*

Whitfieldia lateritia. This plant is a very desirable inmate of the stove, forming a small bushy shrub, with spreading branches and copious evergreen foliage; the branches terminated by racemes of flowers of a rather large size, of which the calyx and corolla, and often large bracteas, are of one uniform brick-red colour. It is one of the many novelties brought home to Lord Derby from the interior of Sierra Leone. — *Bot. Mag.* 4155.

LILIACEÆ. — *Hexandria Monogynia.*

Blandfordia marginata. A native of Van Diemen's Land, where it is abundant, and is, we presume, the real *Atleris punicea* of Labillardiere. It produced flowers two or three years since in the Nursery of Messrs. Osborn & Co., of Fulham, and was then named *B. marginata* by the Dean of Manchester, in consequence of the roughness of the edges of its leaves. It is far handsomer than *B. grandiflora*, from which it differs in its flowers being deep copper colour instead of half red and half yellow, in its long leafy bracts, and in the shape of its blossoms, which form a nearly regular cone, instead of being contracted above the base, and then inflated in the upper division. — *Bot. Reg.* 18—45.

SOLANACEÆ. — *Pentandria Monogynia.*

Iochroma tubulosa. In the opinion of Mr. Bentham this plant, which was mentioned in the last volume of the Botanical Register under the name of *Habrothamnus cyaneus*, is better separated as a peculiar genus, to which two other species, also found by Mr. Hartweg in Equatorial America, must be added. "This new genus," writes Mr. Bentham, "differs from *Habrothamnus* in the æstivation of the corolla; and, as far as I can judge from a not quite ripe fruit, in the fruit and seed belonging to the tribe of true Solaneæ, not to the Cestrineæ. Mr. Hartweg found this plant in the form of a shrub from four to six feet high, growing on the mountains of Zangana near Loxa. It flowered in the Garden of the Horticultural Society in August, 1844. The flowers are handsome, of a bluish purple tint, and are produced freely from July to October. — *Bot. Reg.* 20—45.

Cestrum aurantiacum. In general the species of this genus have small claim to beauty; their flowers being for the most part green or greenish, or at least of some dingy colour; their only recommendation has been their occasional sweetness. This plant is one with a strikingly gay aspect; its apricot or orange-coloured blossoms being quite clear, and of considerable size for a Cestrum. It is, in fact, a very beautiful greenhouse shrub, and perhaps not unsuited for turning into the open border during summer: its foliage, too, is dark green, shining, and abundant; and in winter it is rendered gay by an abundance of snow-white pear-shaped berries. Mr. Skinner presented the Horticultural Society with the seeds, which he had obtained from Chimalapa in Guatemala. It flowered in the Chiswick Garden in August, 1844. — *Bot. Reg.* 22—45.

LAMIACEÆ. — *Didynamia Gymnospermia.*

Dysophylla stellata. The starry Dysophyll is mentioned by botanists as inhabiting Malabar and Mysore. The specimen from which the figure was made flowered in the garden of the Right Hon. the Earl of Auckland in October last. It is a delicate little light green plant, looking something like a Bedstraw, but more erect, and bearing spikes of the prettiest little purple blossoms, which remind the observer of the spikes of a Mimosa, or some such plant. The long slender filaments are directed downwards, and being covered with delicate hairs, produce the appearance of plumes of purple silk. There is no hope, we fear, of this delicate little thing existing in the open air of England; on the contrary, it must have a warm greenhouse all the year round. — *Bot. Reg.* 23—45.

Nyctaginaceæ. — *Octandria Monogynia.*

Bugainvillæa spectabilis. A climbing plant, brought from Peru in 1829, but which never bloomed in this country until the specimen at Chatsworth disclosed its singular and beautiful inflorescence about two years ago, and again in still greater profusion throughout the greater part of last summer.

The showiness of the flowers is entirely vested in the large rosy-purple coloured bracts, three of which encircle the true heath-like flowers. — *Pax. Mag. Bot.*

Ericaceæ. — *Pentandria Monogynia.*

Seedling Chinese Azaleas. No. 1. Exquisita. 2. Optima. 3. Broughtonii. These are three very beautiful varieties in the possession of Messrs. Knight and Perry, nurserymen, of Chelsea. The first is an improvement on the well-known *A. ind. variegata*, the spots and edging being more distinctly defined. 2. Is a rich, deep, rose-colour variety. And 3. possesses an intense crimson-red tint, quite distinct from any other. Both of them have fine full-shaped flowers, and cannot fail to be favourites. — *Pax. Mag. Bot.*

Orchidaceæ. — *Gynandria Monandria.*

Aerides maculosum. This comparatively scarce species was imported from Bombay two or three years since, and flowered last year both in the collection of C. Horsfall, Esq., of Liverpool, and that of Messrs. Rollisons, of Tooting. The plant is easily distinguished from other species by the manner in which its leaves are crowded together on the stem; its sepals and petals are full rose-colour spotted with crimson, and the lip possesses the richest tint imaginable of the latter colour. — *Pax. Mag. Bot.*

Spathoglottis Fortuni. One of the first plants which Mr. Fortune met with on the granitic mountains of Hong Kong was this pretty little Bletia-like plant. Like the Bletias it has thin plaited leaves, and fleshy tubers, or corms, which lie dormant for some months after the foliage has disappeared. The genus, indeed, differs from Bletia principally in having the middle lobe of the lip stalked, with some deep plates at its base, and in its anther having but two cells instead of eight. The flowers are entirely yellow, excepting the side lobes of the lip, which are spotted and blotched with crimson. — *Bot. Reg.* 19—45.

Govenia utriculata. Remarkable chiefly for the large transparent, bladdery sheath surrounding its scape and the lower part of the leaves, which seems destined to contain water for the nutriment of the plant. The flowers are small, greenish-white, borne on a loose erect spike. It is a native of Jamaica and Hispaniola. — *Bot. Mag.* 4151.

TO CORRESPONDENTS.

TYRO. — Pepper of commerce is obtained from the *Piper nigrum;* it is a native of the East Indies, and is cultivated there much in the manner of our hops. There are above forty species of *Piper,* most of them succulent, herbaceous plants, furnished with large fleshy leaves; the flowers are, individually, very inconspicuous, the entire genus being usually regarded rather as a vegetable curiosity, than as ornamental plants; they may be grown readily in peat and loam; with a stove temperature.

SUBSCRIBER.—It is far less trouble to split off the new shoots of Chrysanthemums already rooted, than to strike cuttings of them, and the result is nearly equal; it is only necessary to stop them early, and allow them sufficient space, to ensure handsome plants.

AN AMATEUR.—Fix a piece of glass horizontally over the pods of tulip seed, and you will have no difficulty in ripening them.

X.—The following are highly ornamental half-hardy annuals that should be grown to enliven the conservatory through the summer months: Portulacea splendens, P. Thellusonii, Browallia elata, Humea elegans, Mesembrianthemum pyropæum, Celosia cristata, Schizanthus Hookerii, S. pinnatus, Clintonia pulchella, Mimosa sensitiva, together with Balsams in varieties.

J. F. — We do not see any thing remarkably fine among the Cinerarias sent.

T. Z.—Your seedling Auricula is rich in colour, but unfortunately deficient of "paste," as it is called; the white portion should have more substance, and be of equal width with the edging.

O.—Nos. 2 and 7 of your Cinerarias are decided acquisitions; they are large flowers of superior shape and brilliant colours; the quilled varieties, are not to our taste; we are anxious rather to obtain broad petals than these narrow incurved ones.

LITERARY NOTICES.

THE GARDENER'S RECEIPT BOOK, by W. JONES, Gardener to J. Lawrence, Esq., Beddington, Surrey. London: *R. Groombridge & Sons.*—This is a collection of above a hundred recipes for the destruction of insects and vermin injurious to the garden, and the preservation of other matters connected with it. The utility of such a book for reference and consultation at the moment when a remedy is required, is self-apparent; the value of it, of course, depending on the effectiveness of the recipe proposed: and here the author tells us, he has either personal experience, or that of his friends, as to the certainty of all contained in his book, though he very properly remarks that in some instances a single application may be insufficient, when it should be repeated till the desired effect is produced, inattention to this being the frequent cause of disappointment. The style is clear and concise, just the manner in which such things should be written, and we recommend it to our amateur friends as likely to assist them in many difficulties.

Orchidaceous Plants.—Messrs. *Groombridge & Sons* will publish, early in May, Mr. Henshall's work on the Cultivation of Orchidaceous Plants.

J. C. Ottey's Trade Catalogue for 1845.—We are often annoyed at the egregious blunders contained in the Catalogues which emanate from nurserymen of even considerable standing, and regret very much that so little attention is paid to this portion of their business. The one before us is however a pleasing exception, the typography is correct in, we may say, every particular, and the descriptions very accurate, we only wish they were extended to all the plants enumerated, as should be done in every case; the trade list would then become a useful vehicle to convey to the purchaser an idea, beyond mere names, of what he is buying, and serve to direct his selections.

FLORAL INTELLIGENCE.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.

The first show for the season of this Society took place on Wednesday, April 23rd, at the Horns Tavern, Kennington. The number of productions was somewhat limited, though some especially fine plants were among them. We may enumerate particularly an immense plant of Erica favoides, from Messrs. Fairbairn, of Clapham, a nice E. aristata major, from Mr. Dickson, and a pretty specimen of Acacia cordata, from Mr. Wood, of Norwood. In the collection of Mr. Pawley, of Bromley, which obtained the Adelaide Cup, were superior specimens of Erica vestita rosea, E. Hartnelli, E. perspicua, Euphorbia splendens, a plant of Pimelea spectabilis, together with other Heaths and Azaleas, &c.; several of them, however, we think would have been far better at home for at least a fortnight longer. Mr. Bruce's collection contained beautifully neat and compact plants, all of them well-flowered, of Aphelexis sesamoides, Acacia diffusa, A. virgata, Azalea indica variegata, Erica grandinosa, fastigiata, lutescens, and Andromedifolia, &c Mr. Hamp exhibited a third large collection, containing, among others, a beautiful plant of Epacris grandiflora, Azalea indica alba, Roella formosa, Boronia pinnata, &c.

Orchideæ were shown by Mr. Don, gardener to F. Cox, Esq., of Stockwell; they were, Dendrobium macranthum, a fine plant, Trichopilia tortilis, Oncidium papilio, O. filipes, O. altissimum, O. lancifolium, and Epidendrum crassifolium. A rich variety of Oncidium luridum guttatum was also present from Mr. Pawley, together with a large plant of Epidendrum crassifolium. Mr. Ivery, of Peckham, exhibited a large collection of Cinerarias; the best of them were, Beauty of Wonham, Fanny Elssler, Criterion, Beauty of Syston, Red Rover, and Nosegay. Among his seedlings we were particularly pleased with Therese, a fine circular flower, of a peculiar, rosy-tinted blue; Nobilis, white, tipped with pale pink, the best form we have yet seen; and Desirable, white, tipped with crimson, fine circular flowers.

The Auriculas were decidedly superior, and more numerous than, from the extremely adverse weather experienced at the beginning of the season, we had anticipated. Seedlings were exhibited by Mr. Dickson and Mr. Chapman. Dickson's Sir R. Peel, a grey edge, promises to be a useful flower, but owing to the unfavourable weather they have been subject to, a fair opportunity of judging them has not been afforded this season. Mr. Trahar's four, which obtained the Cup, were, Conqueror of Europe, grey; Dickson's Wellington, green; Clegg's Crucifix, white; and Apollo, self. The best pair, from Mr. Schröder were Page's Champion, green; and Conqueror of Europe, grey. The best six were Gordon's Champion, Lancashire Hero, Moore's Violet, Cardinal Fleury, Page's Champion, and Highland Boy, from Mr. Trahar. In the nurserymen's class, Mr. Dickson exhibited the best four — Bury's Lord Primate, self; Conqueror, grey; Page's Champion, green; and Taylor's Glory, white; and the best pair, Page's Champion, and Maclean's Unique, grey, a new and very beautiful flower. A collection of fourteen sorts, also from the same, were present. Pansies were shown by Mr. May, of Edmonton, and Mr. Hart, of Guildford, and two seedling Polyanthuses, by J. P. Burnard, Esq.

The following is a list of the prizes awarded.

For the best collection of miscellaneous plants: —
The Adelaide Cup - - Mr. Pawley, Bromley.

Class I. Private Growers.

Best pair of auriculas, Middle, Silver Medal - J. H. Schröder, Esq.
Second best, Small, do. - - W. Trahar, Esq.
Third, Second small, do. - - W. Sandilands, Esq.
Best six, Middle, do. - - W. Trahar, Esq.
Second do. Small, do. - - J. H. Schröder, Esq.
Best collection of 18 plants, Large, do. - - Mr. Bruce.
Second do. Middle, do. - - Mr. Hamp.

Class II. Nurserymen.

Best pair of auriculas, Small, Silver Medal - - Mr. Dickson.

Open to both Classes.

Best specimen plant, Small, Silver Medal - - Messrs. Fairbairn.
Second do. do. - - Mr. Dickson
Twelve cinerarias, Third do. do. - - Mr. Ivery.

Extra Prizes.

Best four auriculas, Silver Cup, presented by Mr. Jas. Dickson - - - - - - W. Trahar, Esq.
Ditto, Three Guineas, presented by Messrs. Chapman and Trahar - - - - Mr. Jas. Dixon.
Collection of Alpines, Third small, Silver Medal - Mr. Wood.
For 6 orchidaceous plants, Small, do. - Mr. Don.
Best specimen, do. Third, do. - Mr. Don.
Collection of auriculas, Small, do. - Mr. Dickson.
Seedling auriculas, 2nd Class Certificates, three - Mr. Dickson.
Ditto, ditto, one - - - - Mr. Chapman.
Heartsease, Third small, Silver Medal - - Mr. Hart.
Cucumbers, ditto, do. - - - Mr. Cuthill.
Seedling polyanthus, Certificate - - - Mr. Burnard.

CALENDAR FOR MAY.

To those amateurs whose taste may lead them so far in the study of our native plants as to collect and arrange specimens, the natural arrangement is strongly recommended, both on account of the high interest it excites, and the extensive knowledge it imparts; and the present month is particularly adapted for the commencement of the study of that system from the number of species of several of the most extensive of the natural orders of our indigenous Flora which may be found in flower. Thus in *Ranunculaceæ* fourteen species are to be sought for; some of them very local; in *Cruciferæ*, twenty-one species; in *Caryophylleæ*, thirteen species; and in *Leguminaceæ*, seventeen species: whilst in orders the bulk of whose species flower later in the season, we have in *Compositæ*, five; in *Scrophularineæ*, six; among *Carex*, at least, twenty-six species may be found; and of *Gramineæ* about a dozen. Decidedly the most interesting order of British plants is *Orchidaceæ*, and about nine species flower during this month. Altogether about 250 plants are to be added to the list this month, and if only four or six species of the larger natural orders are arranged and studied, the amount of really valuable knowledge attained will soon far exceed all that can be gained from the Linnæan system, without detracting in the least from the undoubted benefits conferred on science by the immortal Swede. Nor is this all that will reward the study of our native plants; for there are, no doubt, many nooks and corners of the British Isles that will yet yield absolutely *new* species to the close observer. Few would have expected a decidedly new plant in such a locality as Primrose Hill, and yet an undoubted new grass was found abundantly in that neighbourhood last year. The parish of Tottenham also has furnished one or two new, or very rare plants, during the same time. Nor is this all: Mr. Borrer, Mr. Babbington, the Rev. Messrs. Bloomfield and Coltman, and others, have added new species to the catalogue very recently, and yet, no doubt, much remains to be added by further investigation.

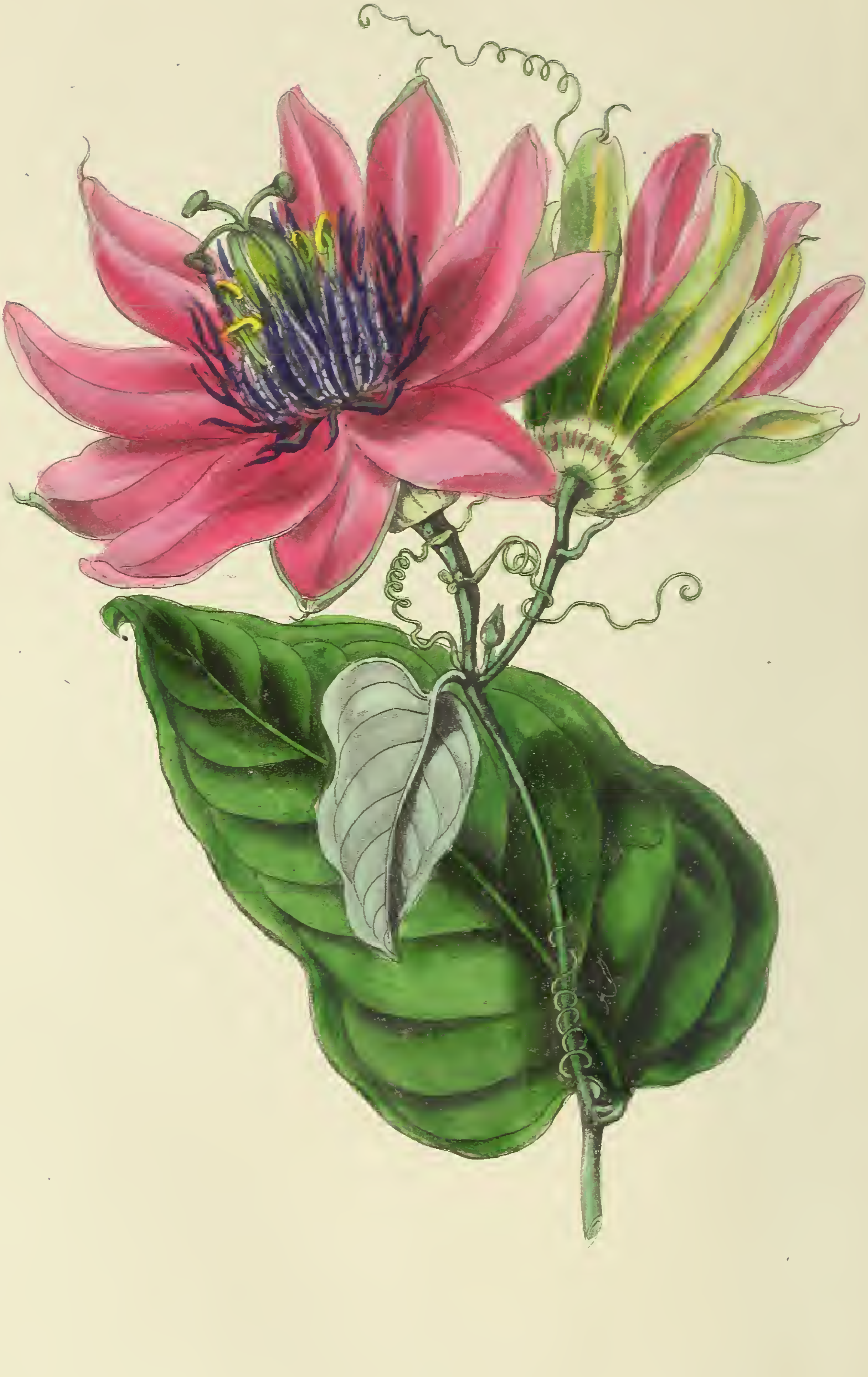
In the flower-garden the preparation for bedding out the summer stock should be looked to, commencing with the hardiest, and keeping the tender things back until near the middle of the month. Few gardeners think of turning out Verbenas, Pelargoniums, &c., until near that time, many of them having a lively recollection of a frost, on or about the 10th of May some ten or more years ago, which did immense damage to the flower-garden. Continue to propagate bedding plants; few have much to spare in that way this season.

Among greenhouse plants preparations should be made for placing the most of them out of doors, in sheltered situations, for the summer, especially where vines are grown in the same house, as the two sets of plants can hardly have justice done to them under the same roof. Whilst hard-wooded plants are kept in, a plentiful supply of air and regular moisture must be carefully maintained.

In the stove a moister atmosphere, with more air, increased temperature, and shading, must be attended to. *Achimenes*, *Gloxinias*, &c., should, some of them, be advancing; but a few may still be retarded for a later bloom. Proceed with shifting plants whenever they require it.

FLORISTS' FLOWERS. As soon as the bloom is off the Auriculas, they should be removed to the shelter of a north wall, there to remain out of reach of the sun throughout the summer months, receiving frequent attention as to watering, cleaning, &c. Finish potting Picotees and Carnations as speedily as possible; a slight shading for a day or two after this operation will be beneficial, to be followed by an abundance of air, until the flowers begin to expand: a great deal of trouble may be expected shortly in the extirpation of green flies; it must however be strenuously persisted with. Tulips are "coming well" this season; the awning must be drawn over them shortly, and much attention paid to the weather about the time of their opening, or the visitation of a slight hail-storm will destroy the whole year's labours. A layer of rotten cow-dung or decomposed leaves, placed on the Ranunculus beds, will preserve moisture to the roots and the beds from cracking. Plant out Dahlias and Pansies, and continue propagating scarce sorts. Sticks, mats for tieing, shades, and all other requisites, should be in constant readiness, as it often happens that the immediate appliance of either, or all, is of the very first consequence.

P.



PASSIFLORA SCHRÖDERIANA

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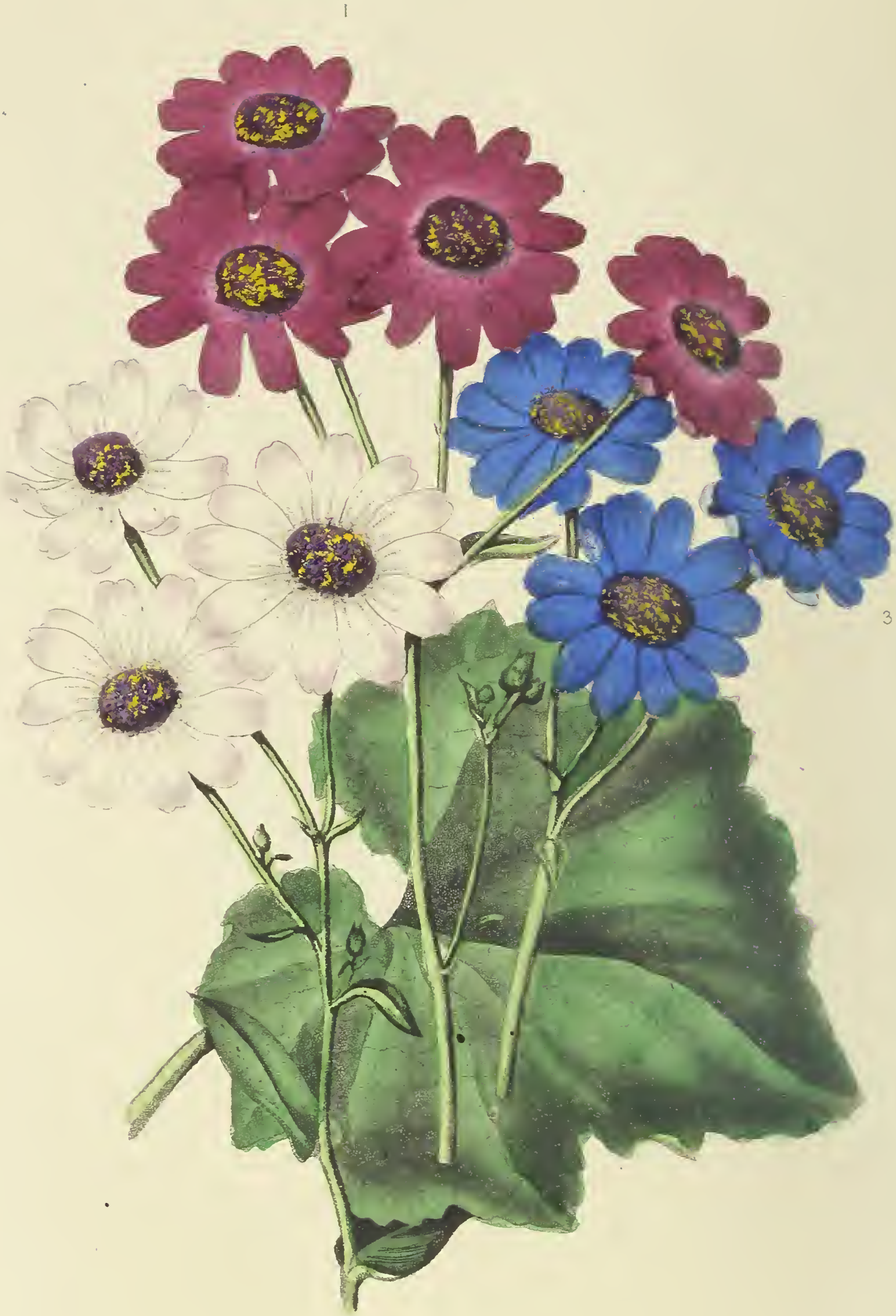


CINERARIAS.

1. PERFECTA — 2. NOBILIS — 3. SAPHIRE

Engd by H. Adlard for Florist Journal June 18[illegible]

THE

FLORIST'S JOURNAL.

June, 1845.

ON THE PASSIFLORA.

WITH AN ENGRAVING OF P. SCHRÖDERIANA.

It will probably be in the recollection of our earlier subscribers, that in p. 111. Vol. III., when speaking of the Passion-flower, we took occasion to recommend the genus to the attention of those interested in the production of hybrids, as being easily operated on, and likely to yield a more than adequate return. What we then advised we took the first opportunity that offered, which was in the second season following, to put in practice, and now the pleasure is ours of showing the result. The accompanying figure is that of a seedling obtained from *P. alata*, impregnated with pollen from *P. Loudonii;* and the object we proposed when effecting the cross is most fully attained, the hybrid exhibiting an equi-distant affinity to both the species mentioned. In general appearance the resulting plant possesses much of the character of the former; its leaves are of the same entire form, and the flowers, besides retaining the general outline of those of the seed-bearing parent, are produced on short axillary peduncles, as are those of *alata;* while on the other hand, its relation to the contra-parent is evident in the rounded stems of the plant, its more compact manner of growing, and in the vivid tints of the bracts and corolla, thus amalgamating, as it were, the distinguishing features of either parent, and fortunately possessing an advantage over both in its copious habit of flowering. The blooms from which our drawing was taken expanded when the plant was quite small, being not more than four feet in height and but five or six months old. It produced in the autumn of the year in which the seed was sown a multitude of flower-buds, which, however, by an infortuitous circumstance, were prevented opening; should this trait prove to be permanent, it will form a desirable and distinguishing character of the plant. It has hitherto been grown in a pot and attached to a cylindrical wire trellis, nor, from its very dwarf confined manner of growing, does it appear likely to require more space either for its roots or branches. A station in the stove, for which it is often difficult to provide suitable occupants, seems to be exactly the place for it, namely, the bottoms of pillars, the upper portions of which it is always easy to fill, from the natural affinity which all plants bear to the light, in their eagerness to reach which, and the warmer atmosphere of the top of the house, they frequently scramble upwards, leaving their stems destitute not only of flowers, but even of foliage. In such situations we fancy the present plant will be found useful.

We are proud of this opportunity to acknowledge some of the kindness we have received from the gentleman after whom it is named, J. H. Schröder, Esq., of Stratford, a most liberal and judicious patron of the science.

In the continued hybridising of this genus, the most promising and important line of operations will be found in the obtaining of hardy varieties for the embellishment of out-door scenery. ***P.** cærulea* is the only one to be seen cultivated in the open air, and this, though delicately beautiful, does not possess sufficient colour to render it an object of much interest; could the bright glowing tints of some of our stove species be inducted on the robust hardy character of *cærulea*, no better climber need be wished. The great obstacle to this most desirable consummation is the difficulty with which the species named can be induced to form and ripen its seed when exposed to the chilling influence of our usual autumnal weather; still it does sometimes produce seed, and probably, was attention paid to the setting of the earlier flowers, the barrenness complained of would be removed. It is quite evident, to obtain new varieties sufficiently hardy for the proposed purpose, *cærulea* must be made the maternal parent, for it is well known that if hybrids are not a degree more tender than the plant from which the seed is obtained, they are, with but few exceptions, quite as impatient of cold; and therefore to select even a greenhouse kind because it is more easily induced to bear fruit, would be to annul the object: nor would it be reasonable to expect anything quite hardy, even with *cærulea* employed as we propose, if a stove species be included in the cross. It is true in the present condition of the genus the choice of suitable kinds is very limited, yet if out-of-door varieties are most desirable, it will be better to confine the operation to the most promising that offer than to indulge in expectations that are not likely to be realised. *P. cærulea*, with the beautiful *P. cæruleo-racemosa*, itself a hybrid, seems to hold out the best chance of obtaining some new form with the required hardiness, though we think the species of Tacsonia lately introduced from Mexico may be employed to much advantage, for some of them have beautiful bright colours that our greenhouse Passion-flowers are altogether destitute of. The two genera are so nearly allied that there appears every probability of their ready hybridising, and the former coming from the elevated districts of the country is already estimated as half-hardy, and therefore presents every prospect of success.

There are one or two matters of some consequence in the raising of seedling Passion-flowers, which we will point out.

In the first place, it is all-important that the seed be duly and thoroughly ripened, to assist and further which the fruit should be allowed to hang as long as possible without injury from frosts; slight ones will not cause any material damage, and, of course, when thoroughly ripe it will fall from the plant; then the seed should be removed from the pulp which surrounds it, cleaned, wrapped in paper, and put away safely in a rather warm, dry situation until the return of spring. Some of that which we obtained was sown immediately after gathering, and the whole of it so treated refused to vegetate, from being, we suppose, in an immature state; the other portion, which was preserved till spring, came up very fairly. Our seed was sown in light rich earth, and the pot plunged into a brisk hot bed, where in about a fortnight the plants began to make their appearance above the soil; these, as soon as they were large enough to handle, were removed singly into small pots, and continued in the frame until too large for it to contain them; a cool stove then received them, where they remained until the next winter. Even with seedling plants that we expected to prove hardy, it will be most advisable to employ artificial heat to hasten their early development, and we should recommend the continuance of some protection until duplicates are obtained.—EDITOR.

ON BEDDING OUT PLANTS.

AT the present busy period, when almost every one is engaged in making preparation for the embellishment of the flower garden, no apology can be necessary for the appearance of the following hints, intended as an assistance to the tyro in gardening, and which may probably serve to remind the more experienced operator of some useful plant that may have been overlooked. It may be in places where a large quantity of these plants are employed, that a considerable number are already in their respective situations, and it is quite as likely the majority of small gardens have yet to be filled; to these the present remarks are especially directed.

The first point, and it is one of much consequence in the operation of "turning out," is to have the plants duly prepared for the great change they will thus experience. The greater part of those usually employed for the purpose are what is termed half-hardy, that is, capable of bearing exposure to our summer weather, but impatient, or altogether unable to endure the effects of cold and adverse seasons; and these plants, in almost all cases, are introduced to heat, and induced to grow as freely as possible through the early months of spring for the purposes of propagation. If then they are not properly and by degrees inured to the open air, so as to become well indurated before their final remove, how very great must be the check they receive, and equally great the disappointment of the cultivator, who sees his plants standing as he placed them, without exhibiting the least advance, or if there is any perceivable difference it is of the retrograde character, while the season is passing away that they should be unfolding their beauties in, and he has not a sign of flowers; then sometimes the weather is blamed, or there has been a blight, but depend on it the first cause of the failure lies in the unprepared state of the plants when first exposed to the full influence of the air.

Another matter requiring much and constant attention, is to preserve them in a growing state after they are out, for the difference in affecting circumstances is sufficient to suspend action even in the best of plants, without care be taken to counteract the bad effects. The legitimate remedies are a due supply of water and shading; these *must* be given whenever requisite.

In the act of planting out some tact is necessary. The soil, not only just where the plant is to stand, but for a space all round it, should be well pulverised; this allows the free percolation of both water and air, an advantage the roots soon avail themselves of, as evinced by their rapid protrusion throughout the loosened mass. Then again care should be had that they do not receive injury from the violence of winds, heavy rains, &c.; sticks or pegs, as the case may require, being regularly supplied as soon as the want of them becomes obvious. A quantity of climbing plants in the early stages of their growth would furnish nearly constant employment for a person to attend to the nailing, tieing, and proper direction of their shoots; yet without this attention what entangled slovenly-looking objects they speedily become.

It is not the intention of this paper to enter on the subject of arrangement, or to offer any extended remarks on what are suitable or unsuitable plants, but the following are a few really useful ones for all the purposes of the flower-gardener:—

Herbaceous Plants.

Half-hardy.

Anagallis Brewerii. Fine ultra-marine blue; very large.
rosea elegans. Large, rose colour.
Gaillardia picta. Orange rays, red centre; an old but useful plant.
Œnothera grandiflora. Large, yellow; very showy.
Lobelia Erinus grandiflorus. Deep blue; suitable for masses.
Chænostoma polyantha. Pale lilac, with yellow eye; may be used for the same purpose as Anagallis.

Hardy.

Aconitum virginicum. Blue and white.
Delphinium Barlowii. Splendid blue ; an universal favourite.
Dracocephalum speciosum. Producing fine spikes of pink flowers.
Geum coccineum splendens. Crimson ; handsome.
Œnothera macrocarpa. Very fine large yellow flower.
Penstemon carnatus. Deep rose colour.
    atropurpureus. An amazing bloomer ; rich purple.
Matricaria floribunda. Double white ; pretty.
Phlox omniflora magna. Splendid white ; very large.
    Broughtonii. Fine rose, dark eye.
    Princess Marianne. Lilac, and white stripe.
    Van Houttii. Rose colour and white stripe.

All of these are exceedingly beautiful, as are the following

VERBENAS.

Atrosanguinea (Chandler's). Large velvety red, yellow eye.
Azurea grandiflora (Stewart's). Pale blue.
Barkerii. The finest scarlet yet out.
Beauty (Girling's). Cherry colour, very bright.
Boule de feu (Girling's). Vivid scarlet.
Enchantress (Alexander's). Fine rosy pink.
Emma (Walton's). Deep purple blue.
Fowliana. Fine dark lilac.
Fortune Teller (Girling's). Blush pink.
Giant (Girling's). Very large ; lilac.
Howardii. Flesh colour.
Louis Philippe (Fairbairn's). Extra fine dark velvety purple; very large ; altogether a beauty.
Princess Royal (Youell's). Pure white.
Purple Queen (Ivery's). Fine purple.
Parksii. Deep rose.
Queen (Ivery's). White, changing to a pale flesh colour.
Renown (Girling's). Bright ruby.
Superb (Mortlock's). Shaded pink.

J. DAINES.

IMPROVEMENT OF WILD FLOWERS.

I WAS much pleased with an article on British Orchideæ, contributed by a correspondent a few months since; and an anxious desire to extend the subject, and if possible excite some interest on the question, is the *animus* which directs me on the present occasion. We have abundance of proof of what may be done, by assiduous perseverance and properly directed skill, in the case of the several portions of the vegetable kingdom denominated "Florists' flowers;" then why may not the same amount (or less) of attention produce like results in that portion indigenous to our country. It seems (to me at least) to be almost a reproach on our boasted "love of our father land," thus to neglect its native beauties; and I, as an individual concerned in the progressive improvement of all that concerns it, am determined henceforth to use my strongest exertions to effect something in the way proposed; and as there may be others actuated by a similar desire, I will briefly mention a few of our wild flowers that, in my estimation, are likely to be found manageable subjects, that will gratefully return compensation for the attention given. It is not necessary to travel far for subjects, or to look into a catalogue for outlandish names; they meet us at every turn, and are visible on nearly every bank or the margin of every stream. Our Snapdragons are already yielding to the influence of cultivation, as is shown by the figures given in the Journal last March: and why should not the Wallflowers exhibit the same propensity; a purely white one would be most desirable, and to this colour they seem naturally inclined. The beautiful little *Campanula rotundifolia*, an inhabitant of nearly all commons or waste lands, is another promising plant, that has already with me attained at least double its usual stature, both with respect to its altitude and the size of its flowers; and then the lovely little eye-bright, *Euphrasia officinalis*, what a charming object it would present if somewhat larger! The Rose Campion, Rest Harrow, Yarrow, Foxglove, some of the Asphodels, the Wild Thyme, Mullein, Periwinkle, Fumitory, and a variety of others may be enumerated as worthy of a trial, to say nothing of our Heaths. Would that we could impart the hardiness of our native species to plants with the splendid inflorescence of the well-known exotic kinds! However, any direction to be given to the cultivated plant must be determined by the result of the first season's experience, and any perceivable change should be encouraged until it can be decided what is most likely to be profitable.

BRITANNICUS.

GLOSSARY OF TERMS USED IN BOTANICAL DESCRIPTIONS.

A DIFFICULTY which often besets the English reader has been pointed out to us, as militating much against the enjoyment of botanical reading, and the utter impossibility of understanding the subject in which such complicated out-of-the-way terms are so frequently used; we therefore propose to remedy the unavoidable evil by the introduction of a list of terms and their significations, in carrying out which we shall confine ourselves in the first instance to such as are of more ordinary occurrence, reserving the abstruse and such as appear indefinite until another series, should it hereafter be called for.

A (from the Greek α). In composition signifies "without;" as *apetalous*, without petals; *aphyllous*, without leaves. In the case of its joining a vowel it is softened into *an;* thus, *ananthous*, without flowers.

ABBREVIATE. Used to indicate that an organ or part of one is shorter than another.

ABERRANT. Wandering from the natural way, applied in Natural History when the character of certain species or genera differs from those of their neighbours.

ABNORMAL. Of similar meaning to the above, applied usually when the difference exists among more closely allied species.

ABORTION. An imperfect developement.

ABORTIENT. Abortive.

ABRADED. Having the appearance of being rubbed or worn off.

ABRUPT. A sudden termination, an imperfect end.

ABRUPTLY PINNATE. When a pinnate leaf terminates in a pair instead of an odd leaflet.

ABSORPTION. As in ordinary composition.

Abstergent. Possessing a cleansing quality.

Acalycalis. Applied when the stamens contract no adhesion with the calyx.

Acalycinus. Without a calyx.

Acanthocarpus. Fruit having spines.

Acanthocladus. Branches having spines.

Acanthophorus. Bearing spines, or stout bristles.

Acanthopodius. Footstalks of the leaf-bearing spines.

Acaulis. Without stems; applied to herbaceous plants.

Accessory. An addition to the usual number or condition of organs, or their parts.

Accisus. An abrupt termination; appearing to have been cut off.

Acclimatize. To render a plant capable of enduring without protection the changes of a climate to which it is not indigenous.

Accretion. The growing of contiguous parts or organs together in the manner of a graft.

Acerose. Needle pointed; applied to the leaves of plants resembling those of the Coniferæ.

Acescent. Sour, acid.

Acetarius. Anything suitable for a salad.

Achlamydeous. Literally, without a coat; when flowers are destitute of a distinct perianth, as in the willows.

Acicular. Pointed, needle-shaped.

Acinaciform. Scimitar-shaped, curved.

Acini. Employed to signify the granules containing hard seeds, which compose pulpy berries, as in the strawberry, &c.

Aciphyllus. A narrow sharp-pointed leaf.

Acotyledon. Applied to plants which bear no true seeds, but are reproduced by sporules, as in Cryptogamia.

Acronychius. Crooked, or bent inwards like the claw of an animal.

Aculeate. Sharp-pointed, furnished with prickles.

Aculei. Prickles, distinguished from spines by their falling off when old, which the latter do not.

Acuminate. Extended to a long taper point.

Acuminose. Nearly acuminate.

Adenophorous. Studded with glandular points.

Adherence. The union of parts, originally distinct.

Adiscalis. When the stamens, in the absence of a fleshy disc, proceed directly from the thalamus.

Adnascens. A term descriptive of a young bulb.

Adnate. Adhering the whole length. Anthers are adnate when attached by their whole length to the filament.

Adnatum. Same as Adnascens.

Adventitious. Applied to an organ when misplaced, or out of its ordinary position; thus the small bulbs sometimes observed on the flower stems of lilies are adventitious.

Adverse. When one part is placed in an opposite position to another.

Æqualis, Æquans. Equal, of the same proportions.

Æruginous. Green, the colour of verdigris.

Aerophyte. A plant which grows entirely above the surface of the earth or water; an air plant.

Æstivation. The manner in which the parts of the perianth are disposed, the principal forms of which are the valvular, twisted, induplicate, alternate, quincunxial, vexillary, cochleate, imbricate, convolute, calyculate, and plicate.

Affinity. Differs from Analogy in so far that the resemblance which occasions it must depend on some important organ, while Analogy is more superficial or dependent on only a trivial property.

Agglomerated. Gathered into a dense head or mass, as the flowers of a Scabious.

Aggregate. Nearly the same as Agglomerate, usually applied to a dense kind of inflorescence.

Agrestis. A term significant of rural vegetation, wild flowers.

Aiophyllus. Implying an evergreen character.

Akenium. A nut, a hard pericarpium, containing a single loose seed.

Ala. A wing, or thin membrane.

Alata, Alatus. Winged.

Albescent. Hoary, having a whitish tinge.

Albumen. A substance which affords nourishment to the embryo plant, and therefore constitutes the greater part of many seeds; it is usually of an oily farinaceous consistence.

Alburnum. The layers of soft new wood next the bark of exogenous trees.

(*To be continued.*)

HORTICULTURAL ESSAYS,

By the Members of the Regent's Park Gardeners' Society.

ON THE CULTURE AND FORCING OF THE LILY OF THE VALLEY.

By Mr. D. WATT.

THE *Convallaria majalis*, or Lily of the Valley, is an elegant and delicate-scented plant, which has long been held a favourite, though from the circumstance of its not being a native of hot countries, it is not likely to be the Lily of the Valley mentioned by Solomon. Notwithstanding the fragrance of the flowers when fresh, they have when dried a narcotic odour, and if reduced to powder will excite sneezing. An extract prepared from the flowers, or from the roots, partakes of the bitterness as well as of the purgative properties of aloes. A beautiful and durable green colour may be prepared from the leaves with lime.

This little plant is very common in the woods about Woburn in Bedfordshire, and from whence the London markets are supplied with the flowers; it also grows in great abundance in Essex, and in some of the southern counties of Scotland. In Essex it is to be found to the extent of several acres in one place, on a soil of a very close loamy texture, mixed with clay. The situations which it seems generally to inhabit are somewhat marshy; in such places the plant will grow and thrive amazingly, producing heads of pure white flowers full six inches long.

They should be planted in a situation and soil similar to that I have just described. Before planting, dig over and well break the ground about nine inches deep, then plant the roots, about four inches apart, all over the surface of the ground, giving them a gentle press down with the thumb and finger, and then cover them about four inches thick with the same sort of soil. On forming new plantations of this plant, I select all the flowering buds from my stock of roots, which I plant by themselves, but in the same way as I do the others. If equal quantities of each can be had, there will be equal quantities of flowers for two or three successive seasons, after which they should be all taken up, the roots divided, and replanted in the same way. If neatness is desired, as well as a stock of good plants producing a plentiful supply of flowers in their season, the above is the easiest and most certain method that I am acquainted with. It may be well to state, that at the time of replanting, it will be requisite to leave a sufficient quantity undisturbed for the purpose of lifting for forcing during the winter months. It is rather surprising that this plant has not been cultivated with better success; the reason of this, in my opinion, is that it has been killed by too good treatment.

From the early period at which the Lily of the Valley naturally flowers, few plants are more eligible for early forcing. As I have been rather successful, both as regards general cultivation and winter forcing, I will now endeavour to give a brief outline of the practice I have pursued in forcing. I pot them in 32-sized pots, filled to within three and a half inches of the rim with rich loam, upon which the roots are closely placed, and then covered about two inches in thickness with equal parts of leaf mould and sand; they are then well watered, so as to settle the mould about the roots. I then place them on a shelf near the glass in a moist stove or forcing-house, the temperature of which may range from 65° to 75°, and take care that the soil does not become dry. When they are so far advanced, the plants show their heads of flowers, I remove them into a warm greenhouse, still placing them near the glass, until as they advance in growth they are withdrawn by degrees into a shaded part of the house, from whence they are removed to the drawingroom as required. When I remove one lot of plants from the forcing-house, their places are immediately filled with others, which are similarly treated, and thus an ample succession will be kept up. Care and attention are requisite in lifting and selecting the plants for forcing; they require a minute examination to distinguish those that will flower from those that will not, the only difference being that the buds of the former are more round and short than those of the latter. I cut off the flowering buds, with as many roots to them as possible, and after I have obtained a sufficient number the rest are carefully replanted, taking care that none of them are lost, for those which will not flower one season may do so the next.

It may be considered presumptuous of me to offer these remarks on one of our native plants, but under the above method of cultivation I have always met with success, and as they may not be without their use it demands some degree of attention from every gardener.

CULTURE OF MUSHROOMS.

By Mr. G. Swanson.

The following observations are confined to the forcing of the mushroom, in the practice of which I may boast some experience; and am certain, if the following directions are put in practice, and strictly adhered to, they will be found to be effectual. The common field mushroom (*Agaricus campestris*) is considered the best for all kitchen purposes. I will quote the following description from "Rhind's Vegetable Kingdom," which says it is the only species of mushroom cultivated as an article of food in this country; and as some other poisonous kinds very nearly resemble it, a minute description may not be without its use:—The stem of the edible mushroom is short, solid, and white, marked a little below the cup with a prominent ring, the remains of the curtain which covers the gills in their early stage. The cup is at first white, regularly convex, and a little turned in at the edge. As it advances in growth, the surface becomes brown, scaly, and flattened. The flesh is white, firm, and solid. The gills are loose, reaching to the stern on all sides, but not touching it; when young, these are of a pinky red, but change to a livid colour about the same time that the cup alters its form, and the upper surface also changes colour. The latter circumstances distinguish it in this stage from the dark-gilled toadstool, with which it might otherwise be confounded.

Having thus given a short description of the mushroom, the *next* and most important consideration to us all is the manner in which to make or procure the spawn.

The spawn is to be found in decayed dryish rotten dung; such as old hot beds, layers of decayed horse dung, dungy compost heaps, horse mill tracks, and dungy horse rides in stable yards, &c. It is of whitish fibrous nature, interspersed through the dung, and produced probably from the seed of former mushrooms; this seed, however, if it really does exist, is very minute (probably as the finest dust), and is prodigiously numerous, and most widely disseminated: it is scattered over various substances, so as to be always ready to germinate when the peculiar circumstances essential to its growth may occur; and then, in the exercise of its vegetative function, produces the substance called spawn. A quantity of the spawny lumps containing the spawn should be procured, and laid up in store in some dry airy situation, for it will keep for some time. The making of artificial spawn is another matter of importance to the grower. The following method I have practised with good success: — Take any quantity of horse's droppings, fresh from the stable, and add to it about one-third of cow's dung, and a small portion of light sandy earth; mix these together by adding such a portion of water as will allow the whole to be formed into a thick mortar-like substance: this being done, take a mould, about the size of a common building brick, and fill it with the prepared substance: remove the bricks to a dry airy place, where they will dry quickly; and when about half dry, pierce a small hole in the centre of each, and place a small piece of spawn in each hole; move them frequently to promote their drying. When dry, take a quantity of well fermented dung, and spread a layer of it a foot thick upon this dung. Pile up the spawn bricks in regular order, keeping the pierced sides uppermost to prevent the pieces of spawn from falling out, and building the pile as open as possible, terminating in a point. After this is done, take a little fermented dung, and cover the pile with it so as to impart a gentle heat throughout the whole. The spawn will soon run through the bricks, and when this is observed, let them be stored as already stated.

The spawn being thus provided, the next consideration is the preparation of the dung, and the making of the bed.

The bed should be made with fresh warm stable dung, mixed with, at least, one-fourth of vegetable mould from decayed tree leaves, or with the same quantity of well-rotted cow dung. Then throw it up into a heap, well mixing it in the process, and let it lay for a week or fortnight to let the burning-steam and heat pass off, so that the whole may become mellow, and of an equal temperature; in which state it is in readiness for making the bed.

In making the bed, either on the shelves, or floor of the mushroom house, take some long litter from the dung heap, and lay at the bottom; then let the prepared dung be put on in layers, to the depth of two feet, being well beaten down, as the process goes on. When the bed is made, it is proper to have two, or more, *trying sticks*, thrust down in different parts to draw up, occasionally, in order to ascertain the heat. After the vehement heat has subsided, and the bed is lowered to a very moderate or mild heat, then, and not before, put in the spawn, previously breaking the large lumps into moderately small pieces, and planting it into the dung at one foot apart. Then take the earth of previously made exhausted beds, and scatter it all over the surface; it will answer two purposes. When the spawn begins to run, cover the bed with strong rich earth, mixed with a little cow dung, and after it is finally earthed over, let the surface be smoothed, and well beaten with the back of a spade; two inches of earth is quite sufficient.

In making mushroom beds out of doors, take a sufficient quantity of dung prepared as already directed, and with it make the bed in the form of a ridge, four or five feet wide at bottom, and three or four feet high, gradually narrowed to the top. The process of making the bed is the same as that described in the mushroom-house. It should be made in a dry sheltered situation, and on level ground, in preference to making the lower part in a trench, in order to have the opportunity of spawning it quite to the bottom, and also that water may not settle in that part to check the heat; mark out the proper width and intended length, and then commencing at the bottom part by a layer of prepared dung, as before observed. Begin at one end, and work up the sides equally in a gradually sloping manner, and forming the ends nearly in the same proportion. Observe to put in the spawn as before directed, for the heat should be only sufficient to set the spawn in vegetative motion, so as to extend its fibres into the dung and earth; and this degree of heat should continue for some considerable time in a moderate growing manner, to promote and forward the knotting of the mushrooms. When the bed is spawned, and earthed over, it may be directly covered with a good thickness of dry straw, and an external coating of mats, pegged down at each side of the bed.

As the mushroom is subject to the attacks of insects, during the summer months, it is necessary here to add, that the only means of keeping away the enemy is by putting a layer of coal-ashes beneath the bed, and mixing a little soot with the covering of earth. In watering, make holes one foot apart in the bed, and fill each hole as the bed becomes dry.

To keep up a succession throughout the season, take this as a rule: — As soon as mushrooms appear on one bed, make the preparations for another. The temperature of the mushroom-house may be kept from 40° to 60°. In a month or six weeks after spawning, if the bed works kindly, it will produce mushrooms; and if kept in good order, it will continue in bearing for several months.

In examining the beds out of doors, or when gathering the produce, turn off the straw covering very carefully; and as the advancing mushrooms will generally appear in several different stages of growth, gather those only that are of a proper age, that is, before they become large and expanded, and generally while they remain compact and firm; detach them by a gentle twist close to the root, but do not cut them out, or leave the stumps in the bed, for they bring on the rot, and become maggoty and infectious to the succeeding young crop, which are advancing in successional growth. Always, as soon as the gathering is finished, cover the bed again directly with the straw litter, especially in cold, wet weather; at any rate it should never remain long uncovered; but only occasionally on dry warm days. If the earth has, by any means, become very damp, the covering may remain off two or three hours, sufficient to dry the surface; but it should be covered again as soon as possible.

The above being the general practical directions for making and spawning mushroom beds, I shall only add some essential particulars very necessary to be observed. As the spawn of the mushroom is of a peculiarly delicate nature, so much so that either too violent a degree of heat in the bed, or excessive wet and cold, would inevitably destroy its vegetative powers, it is necessary to make the bed in the form of a ridge, which experience has proved to be the most eligible, in order to have it the more readily attain and maintain the requisite mild degree of heat; and also, by its sloping form, the more effectually to shoot off or discharge any redundancy of moisture, and to preserve the surface moderately dry. A thick covering of straw is also necessary, both to assist in preserving the gentle heat or warmth, and to defend the bed from excessive rains, as well as to exclude the external cold and damp.

George Swanson.

Cambridge House Garden, Twickenham,
Oct. 3, 1844.

LIST OF NEW PLANTS.

Orchideæ. — *Gynandria Monandria.*

Warrea cyanea. This plant is remarkable for the intense porcelain blue colour of its lip, to which it is not easy to find a parallel in the order; for pure blue is scarcely known among Orchideæ. The plant has quite the habit of *W. tricolor*, but is very much smaller in all its parts. Its most distinctive character is found in the form of the lip, which has a distinct point, and five ribs, not three, near the base. Messrs. Loddiges imported it from Columbia in 1843. — *Bot. Reg.* 28-45.

Stanhopea Bucephalus. This is one of the rarest and finest of Stanhopeas, in some measure resembling *S. oculata*, especially in the long, narrow hypochil. Its flowers are deliciously scented, and their bright golden colour produces a very rich effect. At first sight it might be mistaken for a variety of *S. oculata*, but the shortness of its ovary is a decisive mark of distinction. The effect of this shortness is to make the inflorescence of *S. Bucephalus* very narrow, while in *S. oculata* it is broad and straggling. The species is a native of the woods of Paccha, a small village in the Andes, on the ascent from Guazaquil to Loxa, at an elevation of 6000 feet, where it was found by Mr. Hartweg. — *Bot. Reg.* 24-45.

Peristeria Humboldti var. fulva. A rich, tawny, yellow-coloured variety of the now pretty well-known P. Humboldti, which flowered in the collection of Mr. Barker, of Birmingham, in June, 1843. Its native country is Venezuela, where the original species was first detected by Humboldt. It is one of the most striking among Orchidaceous plants, and few are more worthy of cultivation; the raceme is a foot and a half to two feet long, pendent from the base of the pseudo-bulb; the flowers are numerous, large, fleshy, of a tawny yellow colour, dashed almost all over with spots of purplish brown, and of an irregular globose form; the colour of the lip is a brighter yellow than the rest of the flower, and the spots are deep purple. — *Bot. Mag.* 4156.

Angræcum apiculatum. From Sierra Leone, introduced to our gardens by Mr. Whitfield in 1844. I was at first disposed to consider it the same with *A. bilobum*, but that has semi-pellucid, reticulated leaves, distinctly and deeply two-lobed at the extremity; the rachis of the raceme and peduncle are warty, and the spur is dilated and emarginate at the apex, while in this plant the leaves are obliquely apiculate, opaque, and longitudinally striated, the rachis quite smooth, and the long filiform spur entire at the apex. In other respects the two plants seem almost entirely to agree. —*Bot. Mag.* 4159.

Dendrobium fimbriatum var. oculatum. A variety which flowered in the Royal Botanic Gardens of Kew, in September, 1843, having a dark, blood-coloured, eye-like spot in the centre of the labellum, which adds greatly to the beauty of this otherwise very charming plant. This state of it Dr. Lindley considers that of the native specimens. — *Bot. Mag.* 4160.

Polystachya bracteosa. A native of Sierra Leone, communicated by Mr. Whitfield to the Kew Gardens; the pseudo-bulbs are about an inch in diameter, suborbicular, singularly compressed, and the old ones, especially, very uneven on the surface. From the summit arises a stout petiole, bearing a solitary, oblong-ovate leaf, from the base of which, in a cleft at the summit of the petiole, arises the peduncle, bearing a many-flowered, drooping, downy raceme, of bracteated, dull orange-yellow flowers, individually small, and not remarkable for beauty. — *Bot. Mag.* 4161.

SCROPHULARINEÆ — *Diandria Monogynia.*

Calceolaria alba. A native of Chili, but probaby of rare occurrence; at least, it has not till now been introduced to our gardens. Mr. Veitch received seeds from his collector, Mr. W. Lobb, and plants raised from them flowered in his nursery in September, 1844. It is singular in the very pale, nearly white, colour of the flowers; the foliage, though narrow, is copious, and the plant has an erect and graceful mode of growth. The species will perhaps bear our mild winters. — *Bot. Mag.* 4157.

ACANTHACEÆ. — *Didynamia Angiospermia.*

Salpixantha coccinea. Collected by Mr. Purdie in Jamaica, and by him sent to the Royal Gardens, Kew, where it blossomed freely in the stove during the autumn and winter of 1844-5, and made a very pretty appearance with its gracefully pendent scarlet blossoms, and its well-formed, dark green foliage. It is a low, branching shrub, glabrous in every part, with ample, opposite leaves; the peduncles are axillary and solitary, or terminal, and then ternate, drooping; the lateral ones, however, terminate a two-leaved branch, or innovation, while the central peduncle springs from the apex of the older branch; the upper part of this peduncle bears rich, red-coloured flowers, arranged in a spike, the flowers decussately opposite, bearing some resemblance to those of *Manettia cordata.* — *Bot. Mag.* 4158.

BEGONIACEÆ. — *Monœcia Polyandria.*

Begonia ramentacea. A dwarf species, with very close-jointed stems, almost hidden with its beautiful foliage, dark green on the upper side, and crimson beneath, above which the flower-stalks rise a few inches, and terminate in a spreading, cymose cluster of whitish blossoms, delicately tinged with blush. As the flowers decay, the large winged seed-vessels assume a rich crimson hue, and are hardly less attractive. It was imported some years ago from Brazil to the nursery of Messrs. Young, of Epsom. The genus was established by Linnæus, and commemorates a French patron of botany, M. Michael Begon. — *Pax. Mag. Bot.*

RUTACEÆ. — *Octandria Monogynia.*

Correas, five seedling varieties. Obtained by Mr. Gaines, nurseryman, of Battersea. The first, *Picta*, was raised between *virens* and *speciosa*, and possesses a strong, graceful habit, and good foliage: in its flowers it partakes considerably of the appearance of the latter; No. 2., *Rubescens*, originated betwixt *speciosa* and *Lindleyana*, and has very bright-coloured, large flowers, with an upright habit, and shining foliage; No. 3., *Delicata*, is, perhaps, the most decided novelty, and certainly the most beautiful among them: it combines the form of *alba* with much of the delicate colouring of its other parent *rosea;* the inner surface of its spreading limb is of the richest bright silky texture, and the flower being upright instead of pendulous, this portion is exposed to view; No. 4., *Ferruginea,* sprung from *alba* and *Grevillii,* and is a free bloomer; and No. 5., *Pallida,* is a fine, long, cream-coloured flower, with an excellent character of growth: it was produced from *rufra* and *alba,* and flowers very copiously. — *Pax. Mag. Bot.*

Apocynaceæ. — *Pentandria Monogynia.*

Allamanda grandiflora. This plant was discovered by Mr. Gardner whilst exploring the Brazils; and from seeds supplied by him in 1836, it was reared in the Comely Bank Nursery, Edinburgh. It seems doubtful whether it can be regarded as a distinct species, and we are more disposed to regard it as a strongly-marked variety of *A. cathartica.* The most prominent distinguishing traits which it presents are the larger size of the blossoms, usually between four and four inches and a half in diameter, their paler colour, and the absence of a climbing character. The leaves, moreover, are smaller, more closely nerved, and commonly three in a whorl, whilst the complement in *A. cathartica* is generally four. A healthy plant, under good management, will form a compact bush, two or three feet high, and nearly as much across, in the course of a season. The blossoms are disclosed during the latter part of summer, and continue to open till late in October. — *Pax. Mag. Bot.*

Leguminosæ. — *Diadelphia Decandria.*

Lupinus ramosissimus. This is a pretty, half-hardy, shrubby species, with purple flowers, growing three or four feet high in any good garden soil, and well suited for cultivation in the open border, if treated as a summer annual. The plant was raised in the garden of the Horticultural Society, from seeds collected by Mr. Hartweg on Chimborazo, at an elevation of 13,000 feet above the level of the sea. The flowers smell like those of the sweet pea. — *Bot. Reg.* 25-45.

Crassulaceæ. — *Decandria Pentagynia.*

Echeveria Scheerii. Although this is by no means so handsome a species as some of those already known, it is far from being unworthy of cultivation. Its leaves are large and glaucous, and its orange-red flowers, notwithstanding their dingy colour, are abundant, tolerably large, and gracefully arranged. For its introduction the public is indebted to Frederick Scheer, Esq., of Kew, a zealous collector of succulent plants, and whose name it will henceforth bear. It is a native of Mexico, whence seeds were received by that gentleman, and presented to the Horticultural Society in September, 1842. It flowers in the winter. — *Bot. Reg.* 27-45.

Goodeniaceæ. — *Pentandria Monogynia.*

Goodenia grandiflora. This plant was raised in the garden of the Horticultural Society from among a parcel of seeds presented by Mr. Bidwill, and the packet was labelled "New Zealand." It is, however, beyond all doubt, the same as the Port Jackson plant, which was long since introduced to this country, but which seems to have been generally lost again. Are we then to conclude that *G. grandiflora* is common to both New Holland and New Zealand? or are we to suspect some error in the ticketing? Be that as it may, it is certain we have recovered a very pretty greenhouse perennial (not annual or biennial), well worth cultivating for the sake both of the gay appearance of the bright yellow flowers, and of their fragrance, which is that of orange bloom, only much less powerful. — *Bot. Reg* 29-45.

ON THE CINERARIA.

WITH AN ILLUSTRATION.

We were surprised and somewhat amused a short time since by the expression of a sentiment on the part of an eminent botanist of the present day, who, when describing a newly imported species of Calceolaria, expressed a hope that it might not be subject to the innovations of the florist, whose manipulations produced a new race of forms, so much to the deterioration of the original parent, that for it to live neglected or unnoticed he considered quite an escape. Our surprise was awakened by the fact, that one so pre-eminently distinguished by a love of the science and of floral beauty, could be blinded to the improvements effected in the manner thus contemned, merely by an adherence to a set of artificial rules, so imperfect in themselves as to be continually in need of alterations and new adaptations; and our amusement was elicited from the seriousness which pervaded the paragraph in question. Now though these new forms of the florists' obtaining do somewhat interfere with the arrangements of botanists, what disparagement can be offered them? It must be conceded the new forms are superior to the old ones in some important point or other; was it not so, the florist would discontinue his care of them, and there would be an end of the innovations complained of: an increase of the floral parts, with an intermixture of the colours already possessed by the subjects operated on, or the introduction among them of new shades, so as to extend their interest and thus render them more enjoyable, is the florist's aim; and to the happy result of such labours we really think much of the love of plants now so universally exhibited may be fairly and easily traced.

For a proof of what has already been done by the florist we need only instance the subject of our present paper. The Cineraria has not, however, repaid the attention bestowed upon it with the same striking improvement that marks some other vegetable forms so unfortunate as to be included in the florist's list of favourites, probably because sufficient time has not elapsed to develope all its capabilities; for these advances are made only by slow and, in some instances, almost imperceptible gradations, secured by the most unremitting perseverance and patient skill, and again extended by another effort equalled only by the last; yet, in their present merely progressive state, who that claims to be an admirer of real beauty, possessing but an idea of the loveliness of proportion, would desire to see them return to their normal condition?

For the benefit of those who are raising seedlings, we append the rules by which these flowers are usually judged, as an assistance to the proper estimate of their several new productions:—

The plants should possess a neat compact habit, amply filled with medium-sized foliage, the bloom stems rising above the leaves so as to exhibit the flowers, free from obstruction and in a conspicuous manner. The presence of these characteristics indicate rather good management than a constitutional form, still their absence is a fatal objection. The florets (in common parlance petals) should proceed from the centre or disk, in an horizontal position, quite flat, and they should be of sufficient width to overlap each other, so as to leave no interstices between them; the more nearly they approach a perfectly unbroken circle on the margin, so much nigher are they to perfection: the proportion of the disk to that of the whole flower should be as one is to three, and the colour or colours must be clearly defined, dense, and decided; of course novelty in this point is an acquisition, though it must not be purchased at the expense of either of the preceding properties; size, though a necessary qualification, is considered of least importance, because a well-formed small flower is every way preferable, and more pleasing to the discriminating eye of taste, than a huge misshapen object; still one, being only equal in other respects and somewhat larger, would have the advantage of its predecessors. A correspondent in the last April number has anticipated all we could say on the cultivation of these beautiful ornaments of spring, only we may warmly recommend them as window plants, feeling certain that every satisfaction will result if only the most moderate amount of care be given them: fresh soil and pots once a year, protection from frost, and the proper supply of water, is the summary of their treatment in such situations, the return for which is a rich display of light and elegant forms, tinted with almost innumerable shades of colour.

We obtained our illustrations from the extensive collection of Mr. Ivery, Nurseryman, &c. of Peckham, who has directed his particular attention to the improvement of this genus for several years past, and now possesses an unrivalled assemblage. The present subjects are seedlings of the present season, and we think need no commendation.—Ed.

FLORAL INTELLIGENCE.

Royal Botanic Society.

The first exhibition for the season occurred on Wednesday, May 7th, at the Gardens of the Society in the Regent's Park, and being the first of the great metropolitan meetings, was looked forward to with much interest. The effect produced by the numerous collections of magnificent plants that were present was grand, their number and variety far exceeding our limits of description; we must therefore confine our particular notices to the finest plants of the best collections. There were three competitors for the principal prize offered for thirty stove and greenhouse plants, and the collection of Mr. Hunt, gardener to Miss Trail, of Bromley, was placed first; in it were fine plants of Azalea indica variegata, a foot and a half high and two feet across; A. ind. ledifolia, a large plant; A. ind. lateritia, a round plant, and two plants of the double red and double white worked on each other and intermingled, all of them covered with bloom; Ixora coccinea, a splendid plant, about three feet high, with twenty-six heads of flowers; Achimenes grandiflora, three feet across and a mass of bloom; Dillwynia floribunda, Chorozema Henchmanii, trained to a round trellis and well flowered; Tropæolum tricolorum, and Zichya villosa, on a shield-formed trellis, looking gay with their numerous bright coloured flowers; Phœnocoma prolifera, three feet, and proportionately thick; Gompholobium polymorphum, on a large shield, perhaps as fine as ever it was seen; Eriostemon buxifolius, Polygala oppositifolia, beautiful plants of Erica aristata, E. perspicua nana, E. ampullacea rubra, E. Hartnelli, and E. suaveolens, &c. The other large collections shown by Mr. Barnes and Mr. Green were excellent, the three nearly equalling each other: in those from Mr. Barnes were Brassia maculata, with six spikes; Ixora crocata, Aphelexis humilis, two feet high, and well flowered;

Oncidium luridum guttatum ; Pimelea Hendersonii, a beautiful plant covered with dense heads of pink flowers ; Leschenaultia formosa, two feet high, very fine ; Eriostemon cuspidatus, well flowered, and many other equally good specimens, which we have not space to enumerate. Mr. Green, to whom the third prize was awarded, had especial fine plants of Aphelexis humilis, Gongora atropurpurea, with thirty-six spikes of flowers, exceeding anything of the kind we had before seen ; Calanthe veratrifolia, with four large and six small stems ; well flowered plants of Epiphyllum Ackermanii, E. coccineum multiflorum, E. speciosum, and Cereus speciosissimus, &c.

In the collection of fifteen stove and greenhouse plants there were four competitors : Mr. Frazer, Nurseryman, of Lea Bridge Road, obtained the first prize for Azalea indica phœnicea, well bloomed ; A. ind. lateritia, a nice plant ; Bossiæa cordata, two feet high, and very handsome ; Podolobium staurophyllum, allowed to become too tall ; Tropæolum tricolorum, a large plant ; Epacris grandiflora, a large Pimelea linifolia, an excellent Boronia serrulata, a good Erica propendens, and E. campanulata, Chorozema Henchmanii, C. angustifolium, Franciscea uniflora, and Euphorbia splendens.

There were ten competitors in the class for ten plants. The first prize was awarded to Mr. Bruce, gardener to B. Miller, Esq. of Tooting, for perfect specimens of the following plants:—Adenandria uniflora, Pimelea spectabilis, Ixora coccinea, Erica propendens, Gnidia pinifolia, Azalea indica variegata, Aphelexis humilis, Azalea Gledstanesii, Chorozema Henchmanii, and C. varium.

The specimen plants were numerous and fine. The first prize was given to Messrs. Lucombe, Pince, and Co., of Exeter, for a splendid plant of Eriostemon buxifolius, a complete pyramid, seven feet high, and covered with bloom. The second prize was given to the same gentlemen, for Acrophyllum venosum, cultivated in a very superior manner ; and the third prize to Mr. May, gardener to E. Goodheart, Esq., of Beckenham, for Erica elegans, about a foot high, and densely covered with flowers. Extra prizes were given to Messrs. Veitch and Sons of Exeter, for Leschenaultia biloba ; Mr. Robertson, gardener to Mr. Lawrence, Ealing Park, for Erica propendens ; Mr. Marsden, for Hydrangea japonica ; Messrs. Lucombe, Pince, and Co., for Erica elegans, and for Azalea indica Lucombeana ; and to Mr. May, for Azalea ind. lateritia.

For new or rare plants in bloom, the first prize was awarded to Messrs. Lucombe and Co., for Rhododendron campanulatum hybridum, bearing immense trusses of large flesh-coloured flowers, spotted on the upper part with well-defined dark spots. The second prize was given to the same, for a new species of Gompholobium from Swan River, with large crimson flowers and a shrubby habit ; and the third prize to the same, for Bossiæa paucifolia. Messrs. Veitch exhibited a species of Lisianthus, from Brazil, with large oval leaves, and obtained the second prize for a new plant not in bloom.

The first prize for Papilionaceous plants was awarded to Mr. Kyle, gardener to R. Barclay, Esq., of Leyton, for Zichya inophylla, Z. villosa, Hardenbergia monophylla, Podolobium staurophyllum, Crotalaria purpurea, Bossiæa disticha, Podolobium trilobatum, Pultenæa stipularis, Erythrina laurifolia, Chorozema macrophyllum, Mirbelia Baxterii, and Polygala acuminata, misplaced. A collection of Gesneraceous plants, from Mr. Dobson, gardener to Mr. Beck, of Isleworth, were very beautiful; it consisted of masses of Achimenes picta, A. grandiflora, A. longiflora, A. rosea, and good plants of Sinningia guttata, Gloxinia rubra, G. candida, G. Cartonii, G. variegata, and a purple seedling, and received a second prize.

In the collection of fifteen Heaths, the only competitor, E. Goodheart, Esq., received the first prize for a fine group, consisting of E. aristata, E. mutabilis, E. grandinosa, E. Hartnelli, E. propendens, E. Beaumontia, E. linnæoides, E. Willmoreana, E. fastigiata lutescens, E. andromedæflora, E. perspicua nana, E. rubra calyx, E. echiiflora purpurea, E. odorata, and E. mundula. The first prize in the collections of twelve was obtained by Messrs. Fairbairn, with E. ventricosa coccinea minor, E. Hartnelli, E. intermedia, E. mundula, E. aristata major, E. Humea, E. suaveolens, E. ampullacea carnumbrata, E. Cavendishii, E. denticulata moschata, E. favoides elegans, and E. vestita alba. The best eight were shown by Mr. Hunt; they were E. aristata, E. Hartnelli, E. Sprengelii, E. odora rosea, E. perspicua nana, E. Willmoreana, E. ventricosa prægnans, and E. depressa. The best six were from Mr. Reid, gardener to E. Wigram, Esq., of Walthamstow, and consisted of E. Beaumontia, E. ventricosa prægnans coccinea, E. fastigiata lutescens, E. mundula, E. perspicua nana, and E. florida.

The Azaleas were very beautiful, and attracted much notice. The best twelve were from Mr. Smith, nurseryman, of Norbiton; they were, Magnifica plena, Atrorubens, Decora, Amabile splendens, Bicolor nova, with a dash of purple in the upper portion of the flower; Rosea superba, Pallida, Formosa, Alba superba, Punctata, Broughtonii, a large light red with purple spots; and Mirabilis. Mr. Green, gardener to Sir E. Antrobus, Bart., of Cheam, exhibited the best ten: they were, Variegata, very fine; Macrantha, Ledifolia, Gledstanesii, Præstantissima, a light scarlet; Georgiana, Alba multiflora, Speciosissima, Jenkinsonii, and Exquisita. The first prize for six was taken by Mr. Clarke, of Muswell Hill, with Rawsonii, Ledifolia, Phœnicea, Smithii coccinea, Double Red and Double purple.

The Orchidaceous plants were limited in number. Messrs. Henderson obtained an extra prize with the following ten: — Epidendrum variegatum, Acanthophippium bicolor, Maxillaria ochroleuca, Oncidium papilio, O. luridum, O. carthaginense, O. pumilum, Lycaste cruenta, Calanthe veratrifolia, and Saccolabium micranthum. The best six were shown by F. G. Cox, Esq., of Stockwell; they were Dendrobium nobile, D. fimbriatum, Brassia maculata, Epidendrum crassifolium, E. selligerum, and Oncidium altissimum.

Calceolarias were shown by Mr. Gaines, of Battersea, who obtained the first prize with the following: Sylph, Vivid, Eclipse, Candidate, Crimson, Superb, and Venosa.

The best four Cinerarias were shown by Messrs. Lane and Son: Hendersonii, Unique, Mello Park, and Conspicua.

An extra prize was awarded to Mr. Kendall, of Stoke Newington, for a collection of Fuchsias, consisting of Vesta, Chandlerii, Coronet, Defiance, Erecta elegans, Robusta, and Iveryana.

The Pelargoniums were in admirable condition. In the Amateur's class, of the new varieties grown in 24-sized pots, Mr. Dobson was the only exhibitor; he exhibited Cleopatra, Zanzummin, Conflagration, Sultana, Bella, Capella, Milkmaid, Sergeant, Lord Chancellor, Matilda, Lurida, and Flora. In the Nurserymen's class for the same description of plants, Mr. Gaines was also alone; his plants were, Lady Prudhoe, Gaines' Rising Sun, Queen of

Bourbon, Rosalind, Pirate, Augusta, Gaines' Princess Alice, Saxon King, Imperialis, Lydia, Cotherstone, and Hermoine.

In the Amateur's class of twelve plants in 12-sized pots, Mr. Parker, gardener to J. H. Oughton, Esq., of Roehampton, obtained the first prize with the following: Queen of Beauties, Wizard, Bleda, Priory Queen, Pomona, Mabel, Erectum, Coronation, Bridesmaid, Comte de Paris, Queen Consort, and Unit. In the Nurserymen's class, Mr. Gaines took the first prize with Lady Isabella Douglass, Nymph, Juba, Albion, Gaines' Lady Sale, Coronation, Lord Mayor, Sylph, Madeline, Vanguard, Emperor, and Ivanhoe.

The first prize for twenty Roses in pots was taken by Messrs. Lane and Son, of Berkhampstead, with beautiful plants of the following kinds: Diana, Millier, Phœnix, Vernon, Triomphe de Luxembourg, Grand Capitaine, Niphetos, William Jesse, Canville, Armosa, Fabvier, Cramoise Superieure, Madame Lafay, Ma Jolie, Aubernon, Anteros, Eliza Sauvage, Barbot, Leveson Gower, and Duc d'Aumale. In the collections of ten, Mr. Stowe, of Bayfordbury, obtained the first prize, with Cramoise Superieure, Mrs. Bosanquet, Napoleon, Triomphe de Luxembourg, Sophrano, Gardinier, Alcine, Abricote, Imene, and Bourbon Queen.

There were three exhibitors of Pansies. Mr. Brown, of Slough, took the first prize with the following thirty-six varieties: Atilla, Brown's Arethusa, Hannibal, Regulator, Purple Perfection, Seedling R. 1844, Seedling F. 1844, Cyclops, Seedling G. 1844, Royal Standard, Jehu, Duchess of Beaufort, Lady Carrington, William Tell, No. 80, King, Seedling 1845, Duchess of Richmond, Hale's Dark, Brown's Curion, Mary Anne, Eclipse, Seedling, Isabella, Rufus, Middleton, Hero of Bucks, Seedling W. 1844, Cotherstone, Exquisite, Pizarro, Fair Maid, Napoleon, Mulberry Superb, Seedling H. 1844, Mary Jane, and Gosset's Dark.

A great many Seedlings were present, from among which the following were selected and obtained prizes: Azalea Murryana, from Mr. Murray, of Twickenham, a large bright rose-coloured flower of good properties; Azalea, Duke of Devonshire, from Messrs. Lucombe and Co., light scarlet, of good form; Azalea semi-duplex pura, from Mr. Smith, Norbiton, double, rosy-pink, very pretty; two seedling Pelargoniums of 1845, from Mr. Beck; the first, "Patrician," a shaded rose, of good form and substance, and "Hebe's Lip," somewhat like the other. Mr. Beck had also another, "Resplendent," approaching the scarlet colour so much desired. Two seedling Calceolarias, from Mr. Gaines, named Madonna and Harlequin, the former a cream colour with purple blotches, and the latter yellow, mottled and chequered with brown.

Seedling Cinerarias were numerous; three were selected for extra prizes: two exhibited by Mr. Jackson, of Bedale, called Lady Prudhoe, a large deep blue, and Countess of Zetland, bright rose; and third by Mr. Pamplin, of Walthamstow, named Azurea.

Many other promising seedlings were exhibited, but their number precludes the possibility of even a bare mention. The following is a list of the prizes awarded: —

For a collection of 30 Stove and Greenhouse Plants: 1st prize, to Mr. Hunt; 2d, Mr. Barnes, gardener to G. W. Norman, Esq., Bromley; 3d, Mr. Green.

For a collection of 15 ditto: 1st, Mr. Frazer, nurseryman, Lea Bridge Road, Leyton; 2d, Mr. Pawley, White Hart, Bromley; 3d, Messrs. Veitch and Sons, Exeter.

For a collection of 10 ditto: 1st, Mr. Bruce; 2d, Mr. Slowe, gardener to W. R. Baker, Esq., Bayfordbury Park; 3d, Mr. Cockburn, gardener to the Earl of Mansfield, Caen Wood; 4th, Mr. Taylor, gardener to J. Costar, Esq., Streatham.

For specimen Ornamental Plants: 1st, Messrs. Lucombe and Co., Exeter, for Eriostemon buxifolium; 2d, to the same, for Acrophyllum venosum; 3d, to E. Goodheart, Esq., Langley Park, Beckenham, for Erica elegans; Extra to Messrs. Veitch and Sons, for Leschenaultia biloba; to Mr. Robertson, gardener to Mrs. Lawrence, Ealing Park, for Erica propendens; to Messrs. Lucombe and Co., for E. elegans; to the same, for Azalea indica leucomgista; to E. Goodheart, Esq., for A. lateritia; to Mr. Marsden, for Hydrangea japonica.

For new or rare plants in bloom: 1st, Messrs. Lucombe and Co., for Rhododendron campanulatum hybridum; 2d, to the same, for Gompholobium sp. no.; 3d, ditto, for Bossiæa paucifolia; Extra to Messrs. Veitch and Son, for Tropæolum Lobbii.

For new or rare plants not in bloom: 2d, to Messrs. Veitch and Son, for Lisianthus sp. no.

For a collection of 24 Alpine plants: 1st, Mr. Wood, Norwood.

For 12 Papilionaceous plants: 1st, Mr. Kyle, gardener to R. Barclay, Esq., of Leyton; 2d, Mr. Clark, gardener to W. Block, Esq., Muswell Hill.

For a collection of 4 Cinerarias: 1st, Mr. Lane, Berkhampstead; 2d, Mr. Ivery, Peckham; 3d, Mr. Gaines, Battersea.

For a collection of 10 Gesneraceous plants: a prize to Mr. Dobson.

For 15 Cape Heaths: 1st, E. Goodheart, Esq.

For 12 ditto: 1st, Messrs. Fairbairn, Clapham; 2d, Mr. Pawley.

For 8 ditto: 1st, Mr. Hunt; 2d, Mr. Barnes; 3d, Mr. Taylor.

For 6 ditto: 1st, Mr. Reid, gardener to E. Wigram, Esq.; 2d, Mr. Young, gardener to C. Barron, Esq., Camberwell.

For 12 Greenhouse Azaleas: 1st, Mr. Smith, Norbiton; 2d, Mr. Gaines.

For 10 ditto: 1st, Mr. Green, gardener to Sir E. Antrobus, Bart.

For 6 ditto: 1st, Mr. Clark; 2d, Mr. Barnes.

For specimen Rhododendrons: 1st, Mr. Smith, for Macranthum; 2d, to the same, for Albiflorum.

For a collection of 10 Orchidaceæ: a prize to Mr. Henderson, Pine Apple Place, Edgeware Road.

For 6 ditto: 1st, to F. G. Cox, Esq., Stockwell; 2d, Mr. Hunt; 3d, Mr. Barnes.

For 30 British Ferns in pots: 1st, Mr. Taylor.

For seedling greenhouse Azaleas: 1st, Mr. Kinghorn, gardener to A. Murray, Esq., Twickenham, for Murrayana; 2d, Messrs. Lucombe and Co., for Duke of Devonshire; 3d, Mr. Smith, for Semi-duplex pura.

For 6 Calceolarias: 1st, Mr. Gaines.

For 12 new Pelargoniums, in 24-sized pots: 1st, Mr. Dobson, gardener to E. Beck, Esq, Isleworth.

For 12 ditto (nurserymen): 1st, Mr. Gaines.

For 12 ditto, in No. 12 pots: 1st, Mr. Parker, gardener to J. H. Oughton, Esq., Roehampton; 2d, Mr. Slowe.

For 12 ditto (nurserymen): 1st, Mr. Gaines.

For seedling Pelargoniums of 1845: Certificates to Mr. Beck, for Patrician and Hebe's Lip.

For seedling Pelargoniums (deep scarlet): Certificate to Mr. Beck, for Resplendent.

For seedling Calceolarias: Certificates to Mr. Gaines, for Madonna and Harlequin.

For seedling Fuchsias: Certificates to Mr. Lane, for Mrs. Lane.

For a collection of 20 Roses in pots: 1st, Mr. Lane.

For 10 Roses in pots: 1st, Mr. Slowe; 2d, Mr. Dobson.

For a device illustrating the principles of arrangement and combination of colours: 1st, Mr. Barton.

For 36 Pansies: 1st, Mr. Brown, Slough; 2d, Mr. May, Tottenham.

Extra Prizes were awarded for the following miscellaneous subjects to Mr. Jackson, Bedale, for 2 Cinerarias; to F. G. Cox, Esq., for 6 varieties of Schizanthus; to Mr. Kendall, Stoke Newington, for 7 Fuchsias; to Mr. Pamplin, Walthamstow, for a seedling Cineraria.

Nottingham Floral and Horticultural Society.

Spring Show, open to all England.

On Wednesday, May 7th, a show, open to all England (the first of the kind in this town), was held at the Exchange Rooms, under the patronage of the Mayor. The exhibition was opened at two o'clock, for the admission of a numerous and fashionable company; and a more captivating *coup d'œil* can scarcely be conceived than was presented on entering the room. The plants, generally speaking, were in excellent condition: the greenhouse Azaleas, which occupied a considerable space, added much to the splendour of the scene, by their thousands of gay and lively blooms. F. Wright, Esq., took the first prize, for six admirably-trained plants; and the prize for the best single specimen was likewise taken by the same gentleman, the second prize being awarded to A. Lowe, Esq., for Indica alba. Mr. Pearson obtained the first prize for six Fuchsias, and likewise for the single specimen, which was a most beautiful plant. Mr. F. Wright was also the most successful competitor for the six best distinct greenhouse plants, Mr. Lowe taking the second prize. A miscellaneous collection of plants (consisting of upwards of 200) in flower, forwarded by Mr. Pearson, was greatly admired; and two miscellaneous collections of twenty house plants, forwarded by Mr. F. Wright and Mr. Lowe, attracted much attention. The Hyacinths, considering the lateness of the season, were truly splendid, and their delightful fragrance filled the room; they were forwarded by Mr. S. Wright. The Auriculas, which we could scarcely have expected, considering the late spring, were also very excellent, and were greatly admired; they were sent by Mr. Staton, Mr. Harpham, and Mr. Pearson.

Royal South London Floricultural Society.

This Society's second show for the season took place on Wednesday, May 21st, in the Surrey Zoological Gardens, when the following prizes were awarded: —

5l., offered by J. Coppock, Esq., for the best eighteen miscellaneous plants, was won by Mr. Pawley of Bromley, with a collection containing, among others, good plants of Erica ventricosa, coccinea minor, E. perspicua nana, Gompholobium polymorphum, Coleonema pulchellum, Azalea indica variegata, and Pimelea decussata. In the amateur's class the Society's first prize for eighteen plants, the gold medal, was awarded to Mr. G. Young, gardener to C. Barron, Esq. of Camberwell, for a collection containing Azalea ledifolia, Erica gelida, E. Thunbergia, E. Humea, E. propendens, Siphocampylos betulæfolius, Cytisus racemosus, &c. The large silver Victoria medal was taken by Mr. Hamp for the second best eighteen; among them were Azalea indica alba, very fine, Epacris grandiflora, Corræa speciosa, a large plant, Pimelea spectabilis and decussata, two Amaryllis, Boronia pinnata, Erica hybrida, &c. The third prize, large silver Linnæan medal, was awarded to Mr. Jones, Herne Hill, in whose collection were small plants, but well-bloomed, of Cytisus racemosus, Thunbergia alata, Azalea lateritia, A. variegata, Statice mucronata, Selago Gillsii, &c. A fourth prize, the small silver Victoria medal, was given to Mr. Kay of Wandsworth for eighteen, containing Eranthemum pulchellum, Statice puberula, Genista canariensis, Cineraria, Fanny Elsler, &c. The first prize for twelve tulips, large Victoria medal, was taken by Mr. Venables of Kennington, with La Tendresse, Laurence's Friend, Walker's King, Rosa Blanca, Washington, Ali Pacha, Fleur des Dames, Transparens Noir, Sanzio, Mantan Ducal, Violet Alexander, and Roi de Navarre. The second, large silver Linnæan, by Mr. C. Smith, with Queen Boadicea, Transparens Noir, Surpasse Catafalque, La plus Belle, Sanzio, Addison, Milton, Triomphe Royale, Catalani, Man of Kent, Aglaia, and Violet Triomphant. The first prize for twenty-four Heartsease was taken by Mr. Parsons; the second by Mr. Edwards; the third by Mr. W. Hall; and the fourth by Mr. Atterton. The large silver Victoria medal was awarded to Mr. Doran for the following eight Cape Heaths — Erica ampullacea vittata, E. vestita alba, E. Pattersoni, E. hybrida, E. perspicua nana, E. princeps, E. Hennea, and E. Beaumontia.

In the Nurserymen's class, Mr. J. Pamplin obtained the large silver Linnæan medal for a collection of twenty-four plants, in which were neat specimens of Diosma ericoides, Coleonema rubrum and gracilis, very good; Prostantheraviolacea, a beautiful and free-flowering species; Boronia pinnata, Erica regerminans, E. quadriflora, &c. The gold medal was given to Mr. Gaines for twelve Pelargoniums: Una, Lord Mayor, Cyrus, Coronation, Nymph, Madeline, Lady Sale, Lady Isabella Douglass, Albina, and Ivanhoe. Mr. Pawley took the large silver Linnæan medal for twelve Cape Heaths; and Mr. Hart of Guildford the small silver Victoria for forty-eight varieties of Heartsease.

In the Open class, J. H. Schröder, Esq., obtained the large silver Victoria medal for the following six orchidaceous plants: Vanda cristata, Calanthe veratrifolia, Trichopilia tortilis, Cattleya Skinnerii, Lycaste Harrisoniæ, and Dendrobium densiflorum.

The best collection of four plants which received the large silver Victoria medal, was shown by Mr. Pawley; they were Pimelea spectabilis, Ixora coccinea, Aphelexis humilis, and Erica Cavendishii, all of them in beautiful condition: the second prize for the same was awarded to J. Allnut, Esq., for Erica propendens, Epacris grandiflora, Azalea variegata, and Zichya coccinea, trained on a dead branch of fir to represent a tree; it had a good effect. The best single specimen, Erica Cavendishii, a magnificent plant, was shown by Messrs. Fairbairn, and received the large silver Linnæan medal; the second ditto, Stephanotus floribundus, a large plant on a flat trellis, was from Mr. Pawley; and the third, Chorozema varium, trained as a dwarf cone, was from J. Allnut, Esq. The small silver Linnæan medal was given to Mr. J. Gaines for four sorts of vegetables.

Extra prizes were given to Mr. Jennings, for a collection of succulents; to Mr. Chapman, for a basket of beautiful grapes; to Mr. Wood, for a collection of Alpine plants; and to Mr. Agate, for Heartsease. A first-class certificate was awarded to

Mr. Dalton, for a seedling tulip, called "Princess Alice," a bybloemen of good form, dark feather, and slightly flamed; and second-class certificates to the same, for another named "Prince of Wales," a bizarre, only a tolerable form, but pleasing colour. Mr. Dalton had also a box of seedlings, several of which promise to be useful flowers; second-class certificates to Mr. Henbrey, for a seedling Pansy, named "Rajah;" and to Mr. Hart for another, called "Consolation;" a similar certificate was given to a seedling Auricula, named "Atlas," from the Hon. and Rev. Robert Wilson, a useful green-edged flower.

LITERARY NOTICE.

A Practical Treatise on the Cultivation of Orchidaceous Plants, by J. Henshall. London: *R. Groombridge and Sons.* — A taste for the culture of these beautiful plants is very rapidly and widely extending. Any information on the subject is, therefore, well-timed, and must be useful. The first portion of the work before us is divided into five sections, treating briefly on the geographical distribution of Orchideæ, and in cultivation of the construction of houses for them, and the advantage of having more than one devoted to the purpose: on heat and moisture, two most important agents in the preservation of these and all other vegetable forms, and on the effect of light. The remaining part contains 32 chapters of practical information on the management of above a hundred genera. We are not disposed to allow a maudlin sensibility to prevent our speaking in terms of commendation of this work. Mr. Henshall is an old correspondent and contributor to the journal, and in his communications to us has been necessarily brief; here, however, he has enlarged his remarks, and added much useful matter, sufficient to make his treatise a boon to horticulturists generally. The "getting up" is executed in a finished style at once neat and suitable. We shall probably introduce a specimen of the work in our next Number.

CALENDAR FOR JUNE.

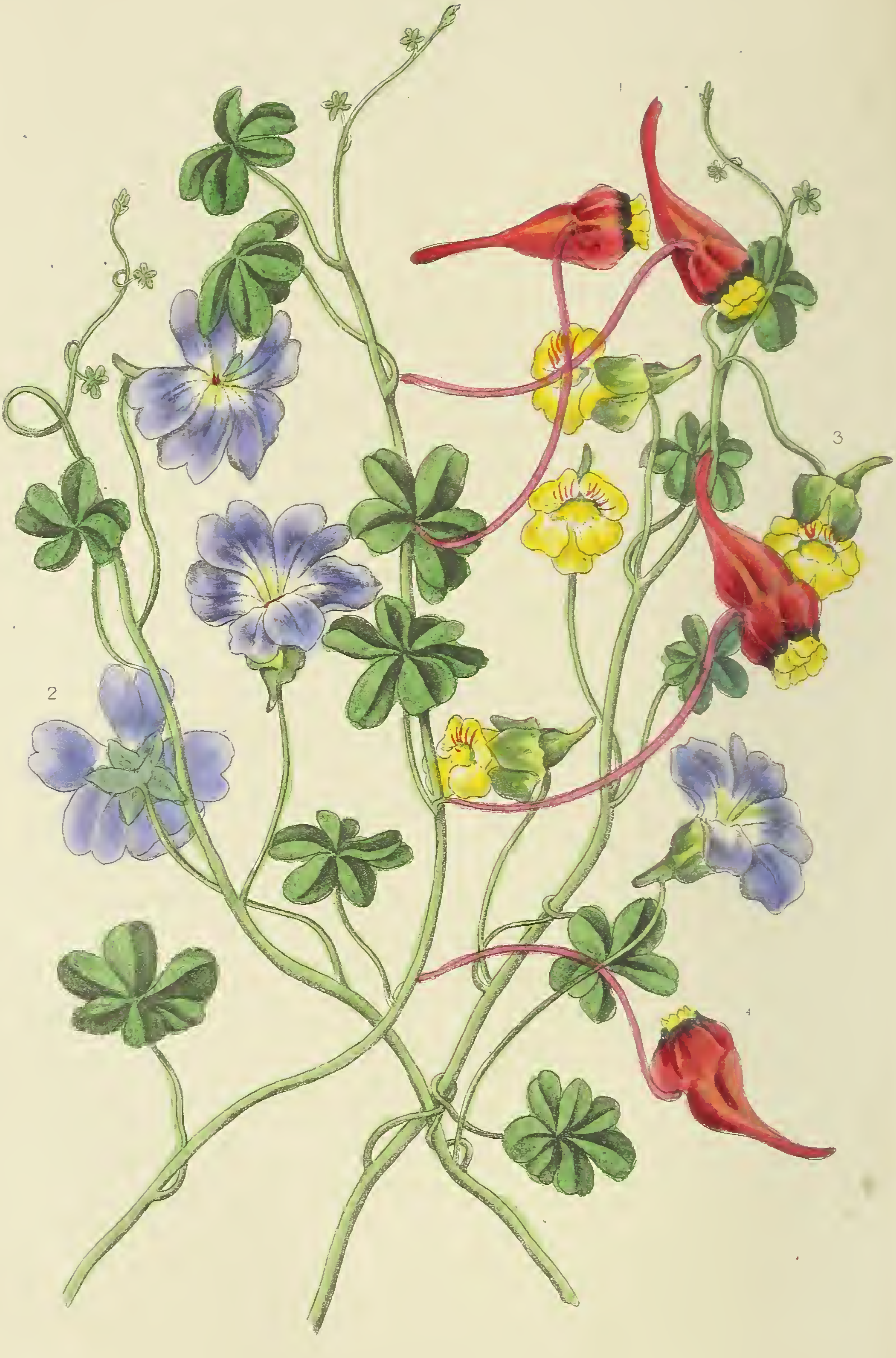
The progress of vegetation has been so very slow this season that even now, when such numbers of our native flowers ought to be in full perfection, they are scarcely to be found, or only in so stunted a form as hardly to convey a proper idea of what they ought to be. A great majority of the grasses may be found, however, during the month, and they will be highly interesting to those who have leisure to note the great variety of form displayed in a family of plants, among whom the mere casual observer would find little to excite attention. The Carexes also, and allied genera, will also be in flower in great numbers, but the collector will require to have them with their fruit near perfection ere he will be enabled to determine their names. But perhaps the most interesting family of British plants is the Orchises, the most of whom may be found during June in the pastures and woods, in the greatest variety, perhaps, in the south-east of England. They appear to particularly delight in a soil varying very little from an equable degree of moisture the most of the year, as hazel copses, damp meadows, and similar situations, especially on a chalky soil; such a soil appearing to retain a certain degree of moisture for a longer period than most others. Altogether, perhaps as many of our plants are to be found in flower during the present month as in any other during the year; it is, therefore, a busy time for the home botanist, and no time should be lost in collecting specimens for after arrangement and comparison.

The flower garden is in rather a transition state, especially at the beginning of the month, from the gaiety of spring to the splendour of summer, when the plants of nearly all parts of the world are turned out to flourish, for a short time, in our variable climate. The arrangement of the colours, and of the plants to represent those colours, should have been seen to in the winter; if so, the filling up now will have been greatly facilitated. A steady eye should also be kept on plants for propagating, especially in small places, where cuttings may often be taken, and a good stock got without disfiguring the plants too much, if taken often, instead of in quantities at once.

The greenhouse plants should be got into their summer quarters. For this purpose a shady but airy situation should be chosen — a most excellent place is the tulip bed, after the bulbs are removed, as by means of the awning any quantity of shade may be given, and drying winds avoided. Keep the houses thoroughly clean and sweet, giving the plants retained in doors all the room and air possible.

Many plants treated as inhabitants of the stove are better now in the greenhouse, or an intermediate house, if so miscellaneous a collection is kept as to require great heat and moisture in the stove. Great attention is necessary to prevent any appearance of the plants being *drawn ;* at the same time, they must not be checked by sudden changes in their treatment, but a vigorous short-jointed growth maintained, and ultimate success may be confidently looked for. D. M.

Florists' Flowers. — Picotees, carnations and pinks, will now engross much care; constant attention must be given to preserve them in the necessary vigour and proper condition; the flower buds of the latter should be looked over every day, and tied to prevent splitting as often as will appear requisite, and the stems of the former supported to the sticks as they advance. The awning may be got over them any convenient time this month, but should not be used more than can be avoided till the flowers are further advanced. Dahlias should be thinned and tied. Ranunculus require plenty of water in dry weather, and a slight shade to preserve the bloom. Tulips may be got up as soon as the points of the foliage appear brown, choosing not only for comfort sake, but for the safety of the bulbs, the end of two or three warm dry days, for the operation; continue to propagate pansies, and to protect the opening flowers, not by means of an awning, but by small caps placed over each individual bloom. Preparation should be made for striking pinks, and layering carnations, &c., so that no time may be lost when the new wood is ready.



TROPŒOLUM

1 JARRATTII _ 2 AZUREA _ 3 BRACHYCERAS.

THE

FLORIST'S JOURNAL.

July, 1845.

THE GENUS TROPÆOLUM.

WITH AN ILLUSTRATION.

The species of this highly ornamental and interesting genus are for the most part natives of Chili and Peru, and bear with us the character of half-hardy plants, suitable alike for enriching the appearance of either the greenhouse, conservatory, or open borders of the flower garden ; in fact, so numerous and varied have the species lately become, that fitting subjects for either or all these situations may be readily selected from among them, preserving at the same time the necessary difference in habit and general contour that should distinguish each position.

In a cultural view the genus may be divided into about three groups; the first consisting of the slender growing tuberous rooted kinds, properly referred to in-door ornamental purposes, of which division our illustration may be taken as an example; the second, composed of such as have tubers, and possess a more robust character, which extend themselves over a far greater space, and thus present most excellent forms for the embellishment of walls, arbours, and other out-door scenery; and the third, containing the annual species, which, with a single exception, are regarded rather as culinary than ornamental plants.

The species of the first division may be enumerated as *T. Jarattii*, a native of Santiago, introduced in 1836 ; *T. brachyceras*, from Chili in 1830 ; *T. azureum*, from Chili in 1842 ;

T. tricolorum, from Valparaiso in 1828; and *T. polyphyllum*, from Chili in 1827. These require to be treated as greenhouse deciduous climbers, to be grown in a mixture of peat, loam, and rotten manure, in proportions of equal quantity with sufficient sand to maintain the proper porosity through the entire mass. The repotting should be performed when the plants first exhibit their protruding stems through the soil. A peculiarity worth mentioning is observed by cultivators to exist in a difference between the young bulbs and those of mature age: the former, for the sake of increasing the substance of the tuber, should be potted with a slight elevation, or, at least, level with the surface of the soil, while the established roots, from which a display of flowers is expected, require to be covered with an inch or two of the earth; this induces a vigorous growth, though without the visible benefit to the tuber so remarkable under the opposite treatment. The ordinary attention to watering, training, and an airy situation in the house, with a slight protection from the direct rays of the sun, is all that will be required, until the plants begin to decline in beauty, when a gradual reduction of the supply of water should take place until the plant is left for the winter, surrounded by a ball of perfectly dry earth,—a far better method of preserving them than by an entire removal from the pots. An upper shelf in the greenhouse is the best position for them till signs of returning action are observed, when the application of fresh earth and other stimuli should be repeated.

T. edule, introduced along with Azureum in 1842, from Chili; *T. tuberosum*, from Peru in 1836; *T. Moritzianum*, from Cumana in 1839; *T. Lobbianum*, from Columbia in 1840; and *T.* (*Chymocarpus*) *pentaphyllum*, form the second group. These require the protection of a greenhouse through winter, but from their larger size are unsuitable occupants (except for tall pillars or the roof) through the summer, but planted in a warm situation in the garden, as we before remarked, form splendid objects. A difficulty has been partially experienced to induce *T. tuberosum* to produce flowers. We saw it once flowering magnificently; it was then placed at the foot of a south wall, and growing in a loam of the strongest and most tenacious description; and again we have known it to produce blossoms when under the most opposite treatment. In the one case the plant was evidently *grown* into flower and produced them in a natural manner; by the other mode it was stinted into a blooming condition.

Of the third group only *T. aduncum* (*peregrinum*) is esteemed at the present day as a suitable ornament of the garden, and that is so well known, as to require no particular mention. Raised on a gentle heat, and planted in the manner of other annuals, it soon becomes a mass of blossom.—Ed.

Horticultural Essays,

By the Members of the Regent's Park Gardeners' Society.

CULTURE OF THE CAMELLIA.

By Thomas Stanfield.

Camellia japonica, introduced 1739, is an ornamental, evergreen shrub, which grows to the size of a low tree, with dark green ovate leaves on short petioles, with flowers, red, white, and variegated, single, semi-double, and double, without fragrance, but of great splendour, and particularly valuable as appearing in December, January, and February. The varieties now in cultivation are very numerous.

Propagation.—The single Camellia is propagated by cuttings, layers, and seeds for stocks, and on these the other sorts are inarched, budded, or grafted. The cuttings are to be formed of the ripened shoots of the preceding summer, which are taken off in August, cut smoothly across at a joint, taking off two or three of the leaves; the cuttings may then be planted in pans of sand and loam. Some cultivators use peat. The pans may be kept in a cold frame, but shaded during powerful sunshine, and in the following spring some will begin to push, when they may be placed in a gentle heat: in September following, the rooted plants will be fit to pot off, and in the second spring they may be used as stocks. A more speedy mode of obtaining stocks is by planting stools in a pit devoted to that purpose, and laying them in autumn: the following autumn most of the layers will have produced roots, when they may be taken off and potted, and used as stocks the succeeding spring. Inarching or grafting is performed early in spring, when the plants begin to grow; the chief care requisite is to place the pot containing the stock so that it may not be disturbed during the connection of the scion with the parent plant: the graft being covered with moss to keep it moist, the mode called side grafting is generally used, but the operation of tongueing is usually omitted, as tending to weaken the stock. Seeds are sometimes obtained from the single red and semi-double; these require two years to come up, but make the best stocks.

SOIL. — Some grow the Camellia in peat; I should prefer a light loam, if convenient to the place: should it be a strong loam, mix a little peat and sand with it, for young plants especially. Plants grow most luxuriantly in a rich loam, but are most prolific of flower-buds in loam and peat. Camellias look the best, and are grown to most advantage, in a house entirely devoted to them. Such a house should be rather lofty, as the plants never look so well as when five or six feet high; the plants should be raised near to the glass, though some recommend a roof which will not admit much light, with glass in front only; others, a house facing the north: but my opinion is, that a light house facing the south, or, better still, glass on all sides, is essential to the perfect growth of the plants. To grow the Camellia to perfection considerable care is requisite; the roots are very apt to get matted in the pots, and by the space they occupy so to compress the ball of mould as after a time to render it impervious to water: hence frequent attention should be paid that the water poured on the pots moistens all the earth, and does not escape by the sides of the pot, moistening only the fibres. The same cause renders examining the roots and shifting, or reducing and repotting, a necessary measure once a year. When the Camellia has a house entirely devoted to its culture, they will not require to be removed to any other house, nor yet out of doors, providing the house is so constructed that it will admit of air freely, or shade if necessary. Such a house would be better without fire-heat, if possible, by covering, to keep out the frost, which is all the Camellia requires; but if fire-heat is quite necessary, every attention should be given to apply it as moderately as possible, not letting the thermometer vary When the plants are in flower, and in a growing state, they require to be liberally watered, and also a degree of heat somewhat more than is usually given to greenhouse plants, which may be obtained by keeping the house pretty close, and then they will expand their blossoms, and grow freely; but where a succession of flower is wanted during the winter, fire-heat is the only means through which it may be accomplished, and very successful results may be insured if attention is given to the proper regulation of the heat. I would recommend to begin in November with a heat of 50° or 55°, not letting the thermometer exceed 60° with sun heat: with this heat they will require a liberal supply of water, with syringing two or three times a week to refresh and keep the plants clean; but when the flowers begin to expand, refrain from syringing, damp the house night and morning to keep a moist heat; sprinkle the flues or pipes occasionally, when they are only warm, for, if done too hot, the steam will prove injurious. If the plants in flower have been removed to a show house or conservatory, and are off flower before the beginning of February, remove them to a cold house to make room for others in flower, and about the middle or beginning of February remove them into a stove or forcing-house, and force them to make their wood and flower-buds, for this is the best time for forcing the Camellia: they will stand a great heat at this season, providing they are liberally supplied with water; and I would recommend syringing at this time. When they have formed their flower-buds, remove them into a greenhouse, where they may have air freely to harden them off, and in a week or ten days, if the season is not too much advanced, remove them out of doors, there to remain till the beginning of September, which is late enough for the Camellia to remain out of doors, as they are likely to be injured with too much wet. At this time remove them into a house or structure of some kind, where they may have air freely supplied to them, and protection from heavy rains or bad weather; and then, at your leisure, you may replace them in their winter apartments. Small plants do remarkably well in pits, the walls banked up with earth and the glasses covered with litter, in the same way that Ericas are preserved during the winter. Where there is a bottom made for them, some sorts, such as the double white, red, striped, blush, and pæony flowered, answer very well when planted in the bed or border of a conservatory, provided the roof can be partly or wholly removed in summer, to admit the full influence of the weather; where this cannot be done, the Camellia is better in portable utensils which admit both of examining the roots and placing in the open air, or in a greater heat, at pleasure. In placing the Camellia out of doors, if a bottom has not been made for their reception in a partially shaded situation, I would recommend foot tiles or inch boards to stand them upon, to prevent the worms working in the pots, as they are very destructive to the roots.

April 10. 1845.

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THE POLYANTHUS.

By Mr. J. Atkins.

This beautiful and early spring flower has been much neglected of late by many of the London florists. It is a lover of pure air, for when planted in a genial soil and in a cool shady situation, having the morning sun to warm and enliven it, it thrives luxuriantly; and yet the ground should not be too damp or wet below, as I have found the roots are apt to canker. I am not aware that the Polyanthus is anywhere else so generally cultivated, or with greater success, than in Derbyshire, Lancashire, Nottinghamshire, and Yorkshire. There is hardly a garden in those counties that does not contain some fine varieties, more or less. Being one of the earliest flowers in spring, its appearance is greeted with a welcome every where.

Its two most prevailing colours are, a very dark reddish brown and a bright red or crimson hue, edged with yellow, a deep orange, or lemon colour.

As to its culture, it is found to succeed best in strong loam, and old rotten cow-dung and leaf mould, with a little river sand in proportion.

The common mode of propagating the Polyanthus is by dividing the roots in spring or in September. This should be done with the hand, for they are not very fond of the knife. As soon as they have done flowering in spring, they should be earthed up round the neck of the plants.

I prefer turning them out of their pots into the open ground after blooming, where they may remain until autumn; the roots may then be divided, and the plants re-potted; I mean those only which are wanted for show flowers; those of inferior qualities are best in the ground altogether. I have seen them succeed well by leaving the plants in the ground till March, when they are taken up and potted, and I have thought the trusses of the flowers have been stronger than those wintered in frames, though I still think it advisable to cover them over in winter from the frost and snow.

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THE CULTURE OF THE COCKSCOMB.

By Mr. D. Watt.

As I have for some years cultivated this truly beautiful plant with good success, I beg leave to offer a few remarks on the mode of treatment I subjected my plants to. I make the first sowing of them in February, and a successional one about the beginning of May. The soil I use is a mixture of very rich loam, leaf mould, and well decayed manure, about equal parts of each. The seeds are covered nearly half an inch deep with the same sort of mould finely sifted, made smooth, pressed gently down, and then watered. They are, when the first rough leaf appears, potted off singly into small 60-sized pots, covering about half of the stem; they are gently watered, and placed on a hotbed in a temperature ranging from 65° to 70° during the day and 55° during the night. As soon as the roots reach the sides of the pot, shift them into the next larger size, using the same compost; again place them in the frame, using liquid manure at their roots once a week; by which I find them very much benefited. They are shifted again as soon as they require it, not on any account allowing the roots to get entangled with each other, for that would be the means of checking their growth. My plants are thus treated, shifting them at intervals, and keeping them in the frame as long as possible, as they will thrive better there than elsewhere. If a frame can conveniently be spared on purpose for them, it is the better way, for when grown in melon or cucumber pits they cause an inconvenience in attending to the other plants, consequently they have not the care nor attention bestowed upon them that they deserve. If treated as directed above, they will require pots ten to twelve inches diameter, and if the combs are
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of a good kind they will measure the longest way twenty, twenty-two, and some twenty-four inches across. When the plants have attained their full growth, or nearly so, they are then removed to the greenhouse, and placed among the other plants, where they present a truly pleasing appearance.

GLOSSARY OF TERMS USED IN BOTANICAL DESCRIPTIONS.

(*Continued from* p. 122.)

Alexiteric. An antidote, possessing the power of removing the effects of poisons.

Alkali. Any substance which, on the application of acid, produces fermentation.

Alkalescent. Of the nature of an alkali.

Alliaceous. A family of plants, of which garlic is the type.

Allochrous. Changing from one colour to another.

Alpine. Applied to plants which inhabit the tops of mountains.

Alternate. When the leaflets of a plant are placed one above another, on opposite sides, in an irregular manner.

Alternately-pinnate. A slight deviation from the regular pinnate leaf.

Alveolate. Composed, as it were, of cavities like those of the honeycomb.

Ament, Amentum. A mode of inflorescense; a catkin.

Ammophilus. The spontaneous vegetation of a sandy soil.

Amorphous. An undefined uncertain form.

Amphicarpic. Bearing fruit of different forms, or which ripens at various seasons.

Amplexicaule. Stem clasping, applied when the base of the leaf extends partially round and embraces the stem.

Amplectans, amplectivus. Clasping.

Ampulla. A bladder.

Ampullaceus, ampullæformis. Swollen out in the middle, like a bottle.

Amylaceous. Of a feculous or starchy nature.

Anandrarius. When the stamens have become extended into petals, so as to form a double flower.

Anasarca. A diseased condition of plants, resembling that of dropsical subjects.

Anastomosing. Running one into another; the reticulations observed in many leaves are anastomose veins.

Ancipital. A compressed stem, presenting two more or less acute edges.

Androcæum. The aggregate of stamens, as corolla is that of the petals.

Anfractous. Spirally twisted; full of turnings.

Angular. Presenting a determinate number of angles.

Angulinerved. When the veins of a leaf branch off at right angles.

Angulo-dentate. Angularly toothed, or angular and toothed.

Angustifolius. Narrow leaved, the width of the leaf being proportionally much less than its length.

Anisopetalus. When a flower is composed of irregularly-sized petals.

Annexus. Adnate.

Annual. Applied to plants which arrive at perfection and die within the year.

Annulations. Rings or circles.

Anterior. In botany refers chiefly to position; growing in front of some other organ.

Anthelmiratic. Having the property of destroying worms.

Anther. The upper portion of the stamen which contains the pollen; a terminal anther is attached to the filament by its base, while a horizontal anther is united by the middle of its back.

Antrorsum. Turning upwards; having an inclination towards the summit of some part.

Apertus. Bare, naked.

Apex. The summit; the opposite point of an organ to that by which it is attached.

Apicillary. Relating to or growing upon the summit of another organ.

Apiculus. Expressive of the short sharp point, formed when the midrib projects beyond the leaf, or when a small point is abruptly formed.

Apiculate. Furnished with an apicula.

Apophysis. An irregularly swollen surface.

Appense. An approach to pendulous.

Appressed. Inclining closely to the surface of something else; the pubescence which lies close to the leaves, or the stems of trailing plants, are said to be appressed.

Approximate. Approaching closely, but not united.

Apterous. Without the membranous margins found on some petioles which are called wings.

Apyrenus. Seedless fruit, as some varieties of the orange, &c.

Aquatics. Applied to all plants which grow in or under water.

Aqueous. Belonging to or resembling water.

Arachnoid. Covered with very soft pubescence like velvet.

Araneus. Composed of soft downy fibres.

Arborescent. Assuming the size or form of a tree.

Arboreus. A tree, as distinguished from frutescent or shrubby.

Arbuscula. A small tree-like shrub, as some heaths, &c.

Arcuatus. Curved so as to form a large arc.

Areolæ. Small cells or cavities, distinctly separate.

Argenteus. Silvery, grey with a metallic tinge.

Arid. Extremely dry.

Arillus. An expansion of the funicular chord adhering to the hilum of seeds, and sometimes covering them in the form of an integument. The mace of commerce is the arillus of the nutmeg.

Arista. An awn.

Aristate. Bearded like an ear of corn.

Aristulatus. Armed with small aristas or bristles.

Armata. Furnished with bristles, thorns, &c.

Armeniacus. Of the colour of an apricot.

Aromatic. Possessing the scent or quality of spice.

Articulation. The place at which a leaf or branch joins the parent stem.

Ascending. Applied to a branch which at first proceeds in a horizontal direction and afterwards becomes vertical.

Asci. Small tubes which contain the sporules or seeds of cryptogamic plants.

Ascidium. An extension or appendage to certain leaves, usually termed a pitcher.

Assimilation. The act of converting nutritious matter into the component matter of the receiving body.

Assurgent. Synonyme for ascending.

Ater. Black (in composition Atro).

Attenuated. Becoming gradually slender at either end.

Auctus. An extra or superadded part, usually evinced in the form of bracteal scales.

Aurantia, aurantiacus. Of the colour of an orange.

Auratus, aurens. Of a bright golden colour.

Auriculate. Having a rounded or ear-like base.

Australis. Applied to plants which are natives of warm climates in the southern hemisphere.

Avenaceous. Resembling oats.

Avenius. Without veins.

Aversus. Turned or rolled back.

Awn. The stiff bristly appendage or beard of corn, and other graminæ.

Axil, axilla. The upper angle formed by the union of the leaf or branch and the stem.

Axillary. Proceeding from the axil.

Azure, azureus. A lively sky blue.

LIST OF NEW PLANTS.

Pittosporaceæ. — *Pentandria Monogynia.*

Pronaya elegans. This elegant little greenhouse plant bears some resemblance, in its general aspect, to the *Marianthus cæruleo-punctatus.* It is a smooth twining plant, but of a less tenuous or rambling growth, producing its leaves at shorter intervals, and having the flowers more compactly aggregated. In healthy plants the latter are plenteously developed, and have a peculiarly neat and attractive mien: from this dwarfness of habit, and the pleasing and long lasting inflorescence, it makes one of the most desirable of plants for a small greenhouse. It is mentioned under the name of *Campylanthera Fraseri* in the "Icones Plantarum" of Sir W. J. Hooker; but the name we have adopted is that bestowed by Hugel, and under which alone we believe it is known in the gardens of this country. It is a product of the western coast of New Holland, and was first discovered by Mr. Fraser growing plentifully about the Swan River settlement, whence it was forwarded to England in 1837. — *Pax. Mag. Bot.*

Combretaceæ. — *Octo-Decandria Monogynia.*

Combretum latifolium. An East Indian species, but at what precise period it was introduced to England we are not informed. It is evidently identical with the *C. latifolium* of Don in the "Linnean Transactions" and the *C. macrophyllum* of Roxburgh in the "Hortus Bengalensis." In the general appearance of the inflorescence there is a striking resemblance between this species and *C. grandiflorum,* but a comparison of the two reveals several essential distinctions; the flower spikes of the present kind are shorter and broader in proportion to their length, the stamens moreover are not so long, and the plant is altogether of a much stouter habit, and is remarkable for the large size of the foliage. — *Pax. Mag. Bot.*

CACTÆ — *Icosandria Monogynia.*

Echinocactus oxygonus. Scarcely any plant possesses more noble or more lovely blossoms than the present, and they are the more striking from the circumstance of their being produced from so graceless and small a trunk. Our specimens are from seven to ten inches in height, subglobose, but generally a little longer than broad; green, slightly inclining to glaucous; there are from thirteen to fifteen deep furrows with the *Areolæ* about three-fourths of an inch apart, sunk, as it were, in the upper edge of each lobe. It is from the areole of some of the upper lobes that the flowers spring, a span or more long, often longer than the plant itself; the tube is trumpet-shaped, greenish, with many red-brown, villous, appressed scales, which gradually become longer and larger upwards, and pass into deep rose-coloured calycine segments, and these again into the oblong pale rose-coloured petals; the stamens are pale straw-colour, and very copious. — *Bot. Mag.* 4162.

ERICACEÆ. — *Decandria Monogynia.*

Arctostaphyllos nitida. Mr. Hartweg found this shrub in Mexico on the mountains called Carmen. The existence of the plant in our collections is owing to G. F. Dickson, Esq., who obtained seeds of it from Mexico for the Horticultural Society, in whose gardens it flowered in May, 1844. It forms a handsome evergreen shrub five or six feet high, bearing a profusion of pure white arbutus-like flowers, and is capable of enduring a mild winter in the open border. — *Bot. Reg.* 32-45.

ROSACEÆ. — *Icosandria Pentagynia.*

Spiræa Lindleyana. The sorb-leaved spirea is well known as an inhabitant of shrubberies. The species now figured is very like it, differing chiefly in its greater stature and more numerous leaflets, which have a long taper point, and a distinctly ovate outline, while those of *S. sorbifolia* are nearly oval. It is a native of the Himalayas, and forms a fine tall shrub, growing freely along with similar plants, and flowering abundantly from July to September. During three winters it bore the cold without suffering, but the late winter killed it as far as the ground, from which, however, it is again shooting up. — *Bot. Reg.* 33-45.

ORCHIDACEÆ. — *Gynandria Monandria.*

Dendrobium Kingianum. For its introduction we are indebted to Mr. Bidwill, who obtained specimens two or three years ago in New Holland. In this species we are presented with the same character which has been previously noticed in other New Holland kinds, of a pseudo-bulbous stem, crowned with a few leathery leaves, and elongating in the form of a spike of flowers, a familiar instance of which is afforded in *D. speciosum.* Our plant however is by no means possessed of the huge size and stoutness for which *D. speciosum* is remarkable; on the contrary, it is comparatively rather diminutive, the pseudo-bulbs seldom exceeding a few inches in length. On Messrs. Loddiges' plants they form an extremely crowded mass, and appear as if they had been squeezed together; this enables the flowers, which are rather loosely arranged, and only a few on each spike, to make a more showy appearance than might be imagined from an individual pseudo-bulb; the lively markings of the lip are particularly engaging. — *Pax. Mag. Bot.*

Schomburgkia tibicinis var. grandiflora. This splendid variety differs from the original species in having very much larger flowers, which are far paler on the outside, and have a broader lip, whose middle lobe is not rich violet, but yellow, with a white or purple border. It flowered in the collection of Robert Hanbury, Esq., in May, 1844. — *Bot. Reg.* 34-45.

Lycaste gigantea. Although the colours of this species are not gay, yet its large size, and the great height to which its flower-stem rises (full two feet) are remarkable features. Mr. Hartweg found it in Guayaquil flowering in the month of August, at a place called the Quebrada de las Juntas. The flowers are larger than those of *L. macrophylla*, the sepals and petals of a dull brownish-green, with a spreading chocolate-coloured labellum. — *Bot. Reg.* 34-45.

Eria Dillwynii. A new species, with tall oblong pseudo-bulbs, producing a raceme six to eight inches long, of cream-coloured flowers, not remarkable for beauty. It is from the Phillipine Islands, whence it was received by Dillwyn Llewelyn, Esq., of Penleegar, through Mr. Cuming, in whose collection it blossomed freely in March, 1843. It is valuable from the great facility with which it submits to cultivation, and the profusion with which it bears its flowers. — *Bot. Mag.* 4163.

Masdevallia fenestrata. This is one of the very curious productions of nature, of which there are such frequent instances in the Orchideous plants. The plant is not only singular in colour, the flowers being externally of a deep blackish blood-colour, but still more singular in form, with the sepals united below and at the apex, leaving a small space much below the apex, which is open and window-like; the whole representing the head of a bird, with a perforation where the eyes should be. It was sent from Jamaica by Mr. Purdie, and flowered at Kew in October, 1844. — *Bot. Mag.* 4164.

LITERARY NOTICE.

The Cultivation of Orchidaceous Plants, by J. Henshall. (*Second Notice.*) Last month we promised to give a specimen of this work, and we are now more than ever disposed to do so, because since our notice it has been made the subject of some most severe, illiberal, and unjust remarks in the "Gardener's Chronicle." The writer of the review in question commences in his usual style with a most insulting reflection on gardeners generally, as though *he* was independent of their influence or exertions, and proceeds with an attempt to throw ridicule on the work, by picking out a line here and there — a sentence from the middle of a page, without the connecting link of the observation to which it refers, leaving the context, and indeed the whole body of the book, completely unnoticed. However, we intend the author shall speak for himself. In the geographical portion of the work, we find the following, and beg to inquire of the learned reviewer how much "absurdity" he discovers therein. After giving a rule for the estimation of the mean temperature in all latitudes, Mr. Henshall says, "Although in the present instance, we have only to treat of tropical plants, and therefore need not extend our remarks beyond the latitudes in which they are found; it may be well to mention another important matter connected with their geographical distribution, affecting their cultivation most materially; this is the difference which exists in the state of the atmosphere at different altitudes. The effect of elevation is to cause a reduction of temperature and rarefaction of the surrounding air; the latter produces an increase in the intensity of light, and, of necessity, a corresponding decrease of humidity. Now, though Orchidaceous plants inhabit only those places where moisture is prevalent, at least for a season, and consequently are seldom found at very considerable elevations, still a degree of difference is observable among them of sufficient extent to render attention to these circumstances absolute and indispensable."

Then, again, in Sect. 2., treating of the benefit of two or more houses, the following passage occurs, — the "absurdity" of which we confess to have been unable to find. "Orchidaceous plants, being natives of tropical regions, require, in their cultivation, what is technically termed a seasonal treatment; that is, a period of active growth, and one of decided rest; during the former, which agrees with the rainy season of the country of which the plant is properly an inhabitant, every stimulative means that the cultivator possesses should be applied to the encouragement of a vigorous and full development of the several increasing parts of the plants; and after the completion of this seasonal growth, the period of dormancy or rest should be brought on gradually, when all excitement must cease, in order to give full maturity to the newly-developed organs. Now, as it happens that Orchidaceous plants are obtained from many and various climates and seasons, it is not reasonable to expect, when we take the force of natural habit into consideration, that they will, all of them, begin to grow at one and the same period, bloom at the same time, or rest altogether at one season; not even if we endeavour to assimilate these seasons to those of our own climate; there will always be a number of them, in a collection of the least pretensions, that will be springing into activity, and requiring excessive moisture, and other stimulants; while another portion will be speedily advancing to maturity, and consequently demanding for their future welfare quite a contrary treatment; and a third will assume an intermediate station, in which flowers are produced, the brilliancy and duration of which are materially diminished when continued in an aqueous atmosphere.

"Then, again, there is the great difference which exists between the climate of India and that of Mexico, and the largest portion of South America, to be considered; it would be but wasteful economy to grow the plants from each of these places together, as the temperature necessary for the Indian species would be more than sufficient for those from Mexico, in fact it would be injurious. But if two houses are maintained for them, every plant may be allowed its proper treatment without disparagement to its fellows; thus the structure devoted to Indian kinds being kept at a higher temperature, and with more moisture than the American house, the plants of the former may be rested in the latter, while, should it happen that any of the inhabitants of the cooler one begin to grow in winter, or before the time usual for increasing the application of warmth and moisture, they may be removed to the hotter house, where the necessary stimuli will be in waiting for them."

In the "Chronicle" review, allusion is made to the grouping of the genera in the directions for culture, and a distorted idea given that it was intended to be a scientific arrangement: at Chap. IV. we find the genera *Broughtonia*, *Aganisia*, *Comparettia*, and *Angræcum* thrown together, and the following explanatory note: — "In classing several genera together, I am actuated by a desire to condense my remarks as much as possible, because the plants thus placed together require the same treatment, and therefore need no separate notice." That there are peculiarities of expression which distinguish many writers, and some of them not much to be admired, we readily admit; yet we hold a book may be of first-rate utility, without pretending to be a literary gem; and when practical information alone is aimed at, the production should be judged, as the information conveyed shall be good or otherwise. Nothing of the sort is attempted in the review of the "Chronicle" — but merely a quibble about punctuation, or matters of a similar import. From such "cant of criticism" defend us!

FLORAL INTELLIGENCE.

Horticultural Society of London.

This Society's first exhibition for the season took place on Saturday May 24th, at their Gardens, Chiswick. The number of plants present was much greater than last year; and were certainly a matchless instance of what good cultivation will effect. In the large collection of forty stove and greenhouse plants, the principal competitors were Mr. Robertson, gardener to Mrs. Lawrence, of Ealing Park; and Mr. Barnes, gardener to G. W. Norman, Esq., of Bromley. The large gold medal was awarded to Mr. Robertson. Our limits not allowing a full enumeration of the plants, we must therefore only notice the best in each collection: the first contained large plants of Acacia alata and Cytisus racemosus, with Azalea indica alba and A. ind. phœnicea, Chorozema varium and C. cordatum, Cytisus filipes, Eriostemon myoporoides and E. buxifolium. A fine plant of Azalea indica lateritia and A. sinensis, with Pimelea spectabilis: in addition to these was Erica propendens, Pentas carnea, Leschenaultia formosa, Aphelexis sesamoides and Tabernæmontana coronaria flore pleno. Mr. Barnes's collection contained, among many other remarkably well-grown plants, Aphelexis humilis, A. sesamoides, and another called A. macrantha purpurea, the finest of the genus; Phœnocoma prolifera, Dillwynia ericifolia, Pimelea Hendersonii in fine bloom, and Gompholobium tenellum. Of Ericas there were E. Thunbergii, E. Hartnelli, a splendid plant, and E. daphnæflora, a fine plant of Luxemburgia ciliosa; and in addition to the preceding was a fine plant of Ixora grandiflora, and also beautiful small plants of Azalea indica Gladstanesii and Podolobium trilobatum. Mr. Green, gardener to Sir E. Antrobus, contributed a third collection; among them was a well-coloured Pimelea decussata; also Coleonema pulchrum, and some fine Azaleas, well flowered.

In the collections of twenty stove and greenhouse plants, the competitors were Messrs. Frazer, of Lea Bridge Road; Mr. Hunt, gardener to Miss Traill, Bromley; and Mr. Ayres, gardener to J. Cook, Esq. The collection of Messrs. Frazer contained Chorozema varium; Boronia pinnata, Podolobium staurophyllum, a dense bush; a neat plant of Erica propendens; and E. campanulata, very fine; Pimelea linifolia, and P. nivea, neat. In Mr. Hunt's collection was a noble plant of Gompholobium polymorphum, an immense bush of Erica gemmifera, and E. perspicua nana, Boronia serrulata, and several Azaleas. In Mr. Ayres's collection the plants were small, but well-grown; among them was a fine specimen of Pimelea spectabilis; Azalea ind. alba, very fine; Poivrea coccinea, with several spikes of rich flowers; a fine plant of Ixora grandiflora, Chorozema angustifolia, the sweet-scented Gardenia radicans, and Gardoquia Hookerii. In the collection of twelve plants, Mr. Bruce, gardener to B. Miller, Esq., of Mitcham, was first: he had finely-bloomed plants of Azalea Gladstanesii and variegata; Aphelexis humilis and sesamoides, very fine; Adenandra speciosa, very pretty; with Pimelea spectabilis, and a tall Ixora coccinea. Mr. Pawley, of Bromley, contributed to this class Azalea phœnicea, very fine; Coleonema rubrum; with plants of Erica perspicua nana and E. ventricosa stellata. Mr. W. T. Epps, of Bower Nursery, Maidstone, sent a collection, among which was Erica Hartnelli, Azalea indica alba, and a large specimen of Podolobium Chorozemæfolium. There were six competitors in the class of six plants, mostly from new exhibitors. Mr. May, gardener to E. Goodhart, Esq., contributed a fine Ixora grandiflora, Hovea celsi, Polygala acuminata, and a fine specimen of Erica mundula. Mr. Cole, gardener to C. Lewis, Esq., Blackheath Park, sent a fine Pimelea spectabilis, with very large heads of flowers; Epacris grandiflora, and Corræa speciosa major. Mr. Stanley, gardener to H. Berens, Esq., Sidcup, had a well-grown plant of Leschenaultia formosa, Tropæolum grandiflorum, a species of Tropæolum from Peru, Gompholobium polymorphum, and Azalea indica alba. Mr. Jack, gardener to G. H. Loraine, Esq., contributed a fine Gesneria zebrina in good bloom, Azalea Gladstanesii, and very fine plants of Bossiæa linifolia and Aphelexis humilis. Mr. Glendinning contributed Pimelea spectabilis with large heads of bloom, Boronia pinnata, and a large plant of Erica rubro-calyx. Mr. Taylor, gardener to J. Coster, Esq., of Streatham, was also a contributor to this class.

The collections of Orchidaceæ were very numerous, but not so rich in fine specimens as in May 1844; we must except, however, the single specimen of Saccolabium guttatum, sent by Mr. Rae, gardener to T. J. Blandy, Esq., of High Grove, near Reading, which is the finest specimen of the kind ever seen, and the most remarkable feature of the exhibition: it had nineteen spikes of flowers fully expanded, Mr. Basset, gardener to R. S. Holford, Esq., contributed a beautiful plant of Aerides odoratum, with twenty-seven flower spikes; Mr. Green, a Dendrobium pulchellum, an entire mass of flowers; and Messrs. Booth, of Flötbeck Nurseries, Hamburgh, sent a small plant of Odontoglossum cordatum. From Mr. Cameron, of the Birmingham Botanical Garden, was a rare plant blooming for the first time in this country, of Chloræa chrysantha, from the hills of Chili; the flowers are of a very rich bright yellow, the habit of an European Orchis. In the large collection sent by Mr. Mylam, gardener to S. Rucker, Esq., was a fine Sobralia macrantha, with several of its handsome flowers fully expanded; also Chysis bractescens, Vanda teres, Odontoglossum citrosmum, Anguloa Clowesii, Coryanthus macrantha, Acanthophippium bicolor, Saccolabium guttatum with two spikes of flowers, S præmorsum, Dendrobium densiflorum, Oncidium pulchellum, Cattleya Mossiæ, Bifrenaria tyrianthina, Cymbidium lancifolium, Oncidium pumilum, O. leucochilum, Lycaste Deppii, Stenia pallida, and Epidendrum macrochilum. From Mr. Robertson, gardener to Mrs. Lawrence, Dendrobium Cambridgeanum, D. densiflorum, Saccolabium guttatum and præmorsum, with several spikes of flowers; Epidendrum bicornutum, E. vitellinum, and Bifrenaria tyrianthina. Messrs. Rollisson, of Tooting Nursery, sent the curious Trichopilia tortilis, Cattleya Mossiæ, Acineta Barkerii, Lycaste Deppii, L. aromatica, and Maxillaria vitellina, Aerides crispum, Cælogyne undulata, with small flowers, much like the Lily of the Valley, Brassia maculata, and Maxillaria tenuifolia. In the collection of twelve Orchidaceæ, the competitors were Mr. Don, gardener to F. G. Cox, Esq., of Stockwell, and Mr. Williams, gardener to C. B. Warner, Esq., of Hoddesdon. In Mr. Don's collection we noticed three small but fine plants of Aerides crispum, A. crispum pallidum, Brassia maculata, a new species of Oncidium, resembling O. papilio, but with the lip beautifully fringed; Lycaste Deppii, Bifrenaria aureofulva, and Acineta Barkerii. Mr. Williams produced Dendrobium cærulescens, D. moschatum, Cattleya species, fine; Epidendrum macrochilum, E. variegatum, and Aerides crispum: in the same group were small plants of Maxillaria tenuifolia, Zygopetalum rostratum, and Stanhopea saccata. Messrs. Veitch and Son exhibited in the collections of six Orchidaceæ a group consisting of Dendrobium Calceolaria, Cattleya Mossiæ, very fine; Oncidium ampliatum majus, and Odontoglossum hastatum, and two others. Mr. Eyles, gardener to Sir George Larpent, sent Vanda Roxburghi cærulea, Camarotis purpurea, Oncidium altissimum, O. luridum, and Cattleya Mossiæ. Mr. Plant, gardener to J. H. Schröder, Esq., of Stratford, produced Dendrobium densiflorum, Trichopilia tortilis, Vanda cristata, very pretty; Cattleya Skinnerii, and Calanthe veratrifolia. Mr. Hunt produced an Oncidium from Honduras, with curious dark brown variegated flowers; O. luridum, and Cymbidium aloifolium. The Azaleas were very fine, consisting of several collections. From Mr. Green was Azalea indica pallida, lilac; A. Gladstanesii, A. Rawsonii, and speciosissima. From Mr. Falconer, gardener to A. Palmer, Esq., of Cheam, Danielsiana, fine; Double red, Bianca, a fine white; Agnes, Theresa, and Emmelina. Mr. Robertson sent phœnicea, splendens, and pulchra, conspicua purpurea, and leucomegista, a very fine white. Mr. Gains, of Battersea, had also a large collection. Mr. Smith, of Norbiton, sent Edmondsii and modesta. A small collection was also sent from Lea Bridge Nursery. Messrs. Knight and Perry sent A. exquisita, a beautiful new kind, spotted with rosy purple, on a light ground.

Collections of Cacti were present from Mr. Green and Mr. Bruce; in Mr. Green's collection were Epiphyllum Ackermanni grandiflorum, and E. coccineum cæruleum. In Mr. Bruce's collection was a fine plant of E. speciosum. In Heaths the exhibition was fine; some of the plants were very large. Mr. Robertson sent a fine E. Cavendishii, Humeana, pretty; Westphalingia, and several varieties of ventricosa. From Mr. May were E. Humeana, very fine; Hartnelli, and Sprengelii. In the Nurserymen's class, a collection of twenty plants was sent by Messrs. Fairburn, of Clapham, containing E. Cavendishii, E. ampulacea, E. tricolor, E. vestita coccinea, vestita alba, and E. ventricosa carnea, v. alba, and also v. coccinea minor. From Messrs. Rollisson some promising specimens of E. mundula; dilecta, good; Humeana, and Beaumontiana, with propendens and fragrans. Mr. Pawley also sent twenty Heaths; among them was a fine Cavendishii, perspicua nana, and Halicacaba. In the collection of twelve plants sent by Mr. Hunt were Sprengelii, suaveolens, odora rosa, and sulphurea. That from Mr. Plumbley, gardener to C. F. Dimsdale, Esq., contained a splendid specimen of E. depressa, with mirabilis and perspicua, good. Messrs. Veitch and Son sent good plants of E. Alberti, vestita coccinea, Clowesiana, and several others, remarkably good. Messrs. Frazer sent a dozen kinds; among them were fastigiata lutescens, and Bergiana, fine. Mr. Barnes sent elegans, dilecta, and mundula. Mr. Bruce contributed fine plants of Cavendishii, princeps, and fastigiata.

From Mr. Jack were fine plants of suaveolens, vestita, perspicua, and sulphurea. Mr. Taylor sent some fine plants; and Mr. Dawson of Brixton also, Mr. Robertson sent a large E. propendens; Mr. Curtis, gardener to T. Allnutt, Esq., of Clapham, a smaller plant of the same species; Mr. Plumbley, a very good suaveolens; Mr. Dawson, a very good mundula; Messrs Rollisson, a handsomely-bloomed Sprengelii. Of Rhododendrons Mr. Smith sent a splendid collection of eleven yellow varieties of a strong growth, and large trusses of blossoms; the finest of them were R. Burlingtonium aureum, a lemon colour with dark orange spots; flavum superbum, nearly of the same colour; ornatum, same colour, tipped with rose; and several others. Of single specimens of superior growth a great number of plants were exhibited. From Mr. Falconer was a noble Azalea indica variegata; from Messrs. Veitch, Eriostemon buxifolium; Mr. Robertson, a Gastrolobium spinosum; from Mr. Beck, a fine specimen of Achimenes picta; Mr. Bruce, Ixora grandiflora; and Mr. Jack, Clerodendron infortunatum. New plants were not numerous, nor very remarkable. A new species of Siphocampylus with bright red flowers was sent by Messrs. Veitch, who also sent Franciscea Pohliana; from Mr. Robertson, Daviesia cordifolia, a pretty flower, but straggling habit.

In the collections of Creepers Mr. Pawley produced Stephanotis floribunda; Messrs. Frazer, Hardenbergia longi-racemosa; and Mr. Robertson, Gompholobium polymorphum. The Roses in pots attracted great attention. Mr. Beck's collection contained some fine specimens. Nemesis, fine rose; Belle Allemande, large creamy yellow; Caroline, light blush. Mr. Slowe, gardener to W. R. Baker, Esq., sent Bougere, Safrano, and Romaine, white with yellow centre; Mr. Lane, of Berkhampstead, sent twenty-five varieties, in good bloom; from Mr. Ayres was a cut specimen of Noisette Cloth of Gold, a remarkably fragrant rose, of large size and fine substance; the yellow is not so deep as was generally anticipated.

The Pelargoniums were not so forward this season as the last, on account of the backwardness of the spring season; yet the display was grand, and of superior cultivation. For collections of twelve new and first-rate varieties, the Gold Banksian Medal was awarded to J. Dobson, gardener to Mr. E. Beck, of Isleworth; contained Foster's Sir Robert Peel, Sultana, Pulchellum, Conflagration, and several others. Mr. Cock gained the large Silver-gilt Medal for Madeline, Angelica, Cyrus, Wizard, and several others. In the Nurserymen's class, Mr. Gaines had no competitor; received the Gold Banksian Medal. For collections of twelve varieties the Gold Banksian Medal in the Amateurs' class was awarded to Mr. Staines, for twelve finely-grown sorts. In the Nurserymen's class, Messrs. C. and D. Smith, of Pimlico, obtained the Gold Banksian Medal for Grand Duke, Coronation, Lady Sale, and several others. To Mr. Gaines a large Silver-gilt Medal for Cotherstone, Queen of Beauties, Pilot, Akbar, and several others. For six varieties, Mr. Gaines received the large Silver Medal; this collection contained large specimens of Nymph, Lady Sale, Albina, and Juba. In Calceolarias there was a decided improvement, both in the sorts and their growth. The large Silver Medal was awarded to Mr. Kinghorn, gardener to G. A. Murray, Esq., Twickenham, for Grandis, Marquis of Bute, Vesta, Mary, Queen of Scots, and others. The Silver Knightian to Mr. G. Stanley, gardener to H. Berens, Esq., for Lane's Monarch, Fairy Queen, and others. Mr. Gaines, in the Nurserymen's class, received the large Silver Medal, for Standishii, Vivid, Napoleon, and Conductor, &c.

For Cineraries, in twelve distinct varieties, Mr. Ivery, of Peckam, obtained the Silver Knightian Medal, for Nosegay, Wee Pet, Regina, Red Rover, and others. Mr. Lane received the Silver Banksian Medal for Regina Victoria, Enchantress, Eclipse, and others. A Certificate was awarded to Mr. Taylor.

Seedlings Pelargoniums of 1844, the following received Banksian Medals: — Rosy Circle, a good-shaped flower, with the lower petals large and broad, of a rosy pink, centre nearly white, top petals rich, with the dark blotch softening to the edge, and terminating in the centre without the feather, and a free bloomer. Arabella, good-sized flower with a white centre, the lower petals terminating with a rosy colour, the upper petals having a large dark spot gradually softening towards the edge; a clear and showy variety: both from Mr. Beck. The Pearl, Catleugh, white, possessing the colours of Una, with a flower of good shape. Among the Seedlings of the present year two were selected, and certificates awarded; they were from Mr. Hoyle, of Jersey: Mount Etna was one, and Isabella the other. In Calceolarias, Mr. Kinghorn showed the best, Exemplar, a rich mulberry-colour ground with small bright yellow markings. In Cinerarias, a Certificate was awarded to Messrs. Smith, of Pimlico, for one named Smithii, a bright rosy purple.

CALENDAR FOR JULY.

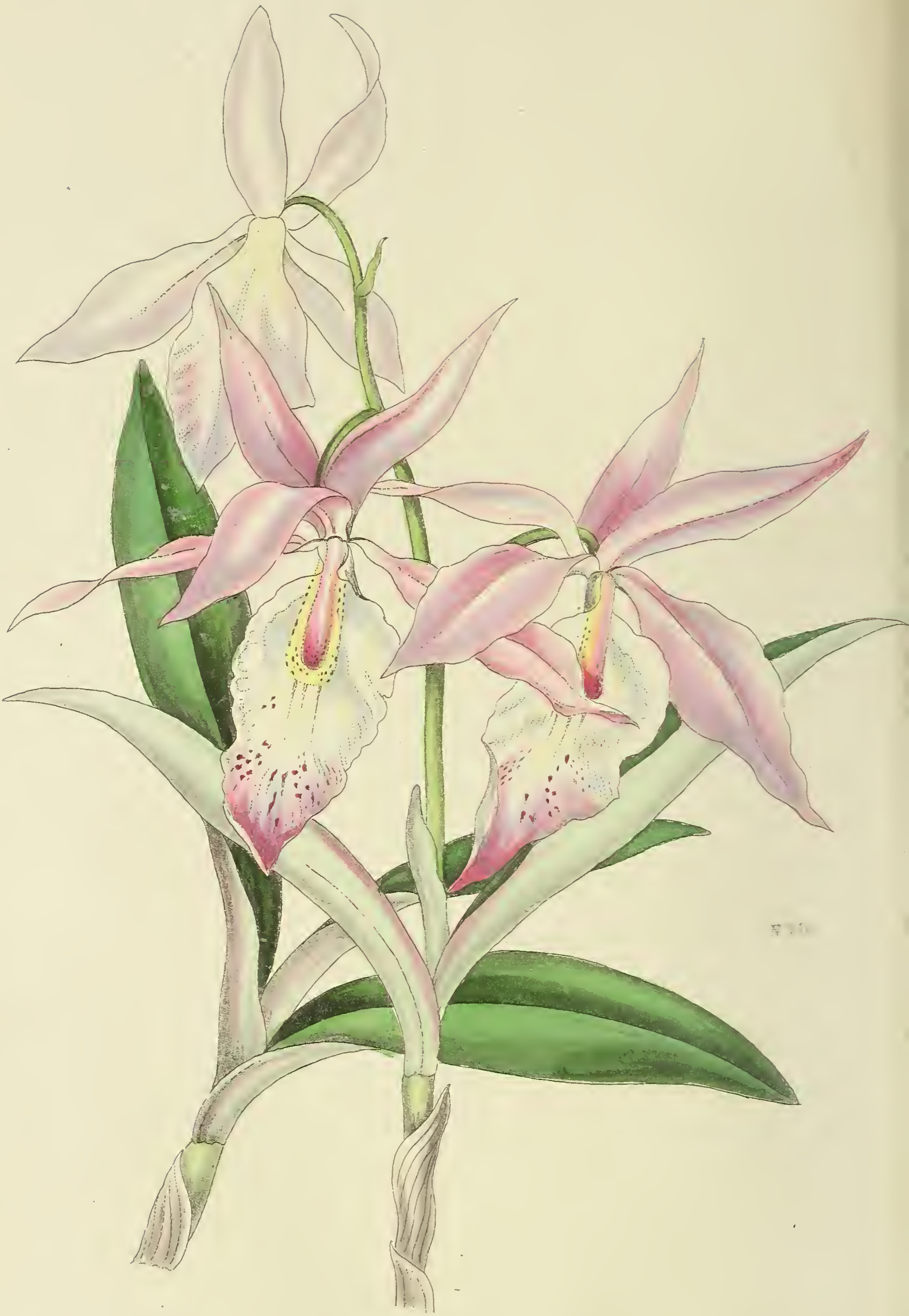
To the collector of British plants this will be a busy month, especially among those where an examination of the seed and seed-vessel is necessary to a proper appreciation of their characters and affinities. Such an investigation, highly necessary in all cases, particularly where the natural arrangement of plants is studied, is indispensable in the larger groups of our native Flora; for instance, in Cruciferæ, Umbelliferæ, Compositæ, Cyperaceæ, &c., among the natural orders; and again in Euphorbia, Potamogeton, and many other genera. For such observations the time has now arrived, and will afford an endless source of amusement to the student. Nor is this all: the numerous series of changes in the seed-vessel and its appendages are highly interesting; as, for instance, the alteration, in various ways, in the calyx of the Clovers and other leguminous plants; the singular and beautiful forms assumed by the down, or calyx, in Compositæ; the bursting of the pod, as in the Furze and Violet, &c. Indeed, the general observation of the various and highly effective ways provided for the dispersion of seeds, is one of the most attractive pages in the study of Botany.

In the flower-garden the most gorgeous time is fast approaching. The beds being permanently filled for the summer, the utmost attention must be paid to neatness and high-keeping, without which the best selection of plants will look weedy and poor. But if keeping is all that is necessary in the flower-garden itself, not a moment should be lost in propagating for another season. To this end cuttings should be continually put in, biennial and perennial seeds sown, and all double-flowering plants of similar habits, as Rockets, Wallflowers, &c., propagated by cuttings, as the best means to preserve them from degenerating. Now also is the time to see the effect of any arrangement of colours adhered to in the planting, and to note any desirable alterations for another season.

Greenhouse plants, wherever placed, should be regularly looked to as regards air, shading, watering, and more particularly training, as no after pruning, tying in, or other resource, will be found so effective in forming a neat and regular plant, as a little attention, during the growing season, to stopping and judicious staking.

In the stove, heat and moisture should still be kept up, in order to allow as much air as will keep the house sweet, and prevent the plants being too much drawn by the shading required in bright weather. As the plants advance, keep them thin by removing the hardier species to the intermediate or greenhouse; also remove those orchidaceous that have made their growth and need it, to a drier atmosphere, to dry them off a little, and they may be made to make a second growth before the season is too far advanced, if such a course be deemed desirable.

D. M.



BARKERIA SPECTABILIS.

Engd. by A. Adlard, for 'Florist's Journal Augt. 1845

THE

FLORIST'S JOURNAL.

AUGUST, 1845.

THE GENUS BARKERIA.

WITH AN ILLUSTRATION.

THE genus Barkeria, one of the most elegant of the whole order, was so named by Messrs. Knowles and Wescott in the "Floral Cabinet," in compliment to G. Barker, Esq., of Birmingham, a zealous cultivator of orchidaceous plants; it is comprised of but three species, all of them, however, remarkable for their neat compact manner of growing, and very specious inflorescence. The first introduction took place in 1836, when *B. elegans* was received from Mexico. This is a beautiful plant, though perhaps the least interesting of the three; its flowers are rather less than those of the species now pourtrayed and of inferior brilliancy, yet possessing colours of nearly the same shades. *B. Lindleyana*, a smaller and more delicate species, bearing lovely dark purple flowers, was the succeeding importation, followed, in 1841, by the present, *B. spectabilis*, from Guatemala. This species, distinguished as it is by its more robust habit and manageable character, together with its comparatively large and lovely flowers, must be regarded as decidedly the finest of the genus, and quite indipensable to all collections.

The entire genus approaches more nearly to Cattleya than to any other vegetable form, both in its botanical character and in cultivation, though there are peculiarities in both which readily distinguish it. It is known from Cattleya by its small, round, tapering, fleshy stems, covered for nearly two thirds of their length by a thin membranous coat, and the narrow, lanceolate, acuminate leaves, though more particularly by its flat, undivided lip, that of the Cattleya being more or less rolled up and three-lobed; and in culture, though it agrees with respect to temperature, the supply of moisture, and general management, yet it almost refuses to vegetate if attempted to be grown in a pot, in the manner usual with the former genus. This, perhaps, may be accounted for by the fact that it is at all times extremely impatient of stagnant moisture, and as the old roots are not so persistent as with most other Orchideæ, it becomes doubly important that no accident or injury be sustained by the young ones, or, as a matter of consequence, a severe check will be given to the entire plant.

The manner in which we have seen it grown to the greatest advantage, is upon billets of wood, with little or no covering, and suspended from the roof of a house, having a comparatively low temperature. It must be understood we do not mean solid blocks of wood, which would have an ugly, heavy appearance, if cut large enough to hold only a moderate number of stems, but a peculiar kind of small platform, made by cutting a number of stout oak stakes into lengths proportionate to the size of the plant, and fastening three or four, or more, longitudinally together, in the manner of a raft, and on these another layer crosswise, securing the whole tightly one to another. This kind of basket, if we may so term it, offers a broad surface for the roots to extend over, and the interstices retain some moisture without its being present in any quantity, and afford the plant a ready means of becoming firmly established, beside facilitating the management by the ease and certainty with which the supply of water can then be regulated. These billets should be of sufficient size to carry the plants several years, as they do not succeed if frequently removed. In order to properly secure new plants to the wood, it is sometimes necessary to use moss about the lower part of the stems, but as little as possible should be employed, for it offers a refuge for snails, woodlice, and other insects, that they will not fail to make use of, and then but small chance is left to the new roots, which are invariably bitten off as fast as they are protruded.

The general management of Barkeria may, as we have before remarked, be referred, in almost every particular, to that proper for Cattleyas, a rather low temperature at all times, say 65° for the mean in summer, and a reduction of about 10° through the dull weather of winter and while the parts are dormant, maintaining throughout a corresponding difference in the supply of moisture. During the growing season it may be applied by immersing the blocks in water twice a day, and at the same time a tolerably free supply of fresh air should be admitted to the house whenever a favourable opportunity occurs, observing to keep the young foliage out of the way of strong draughts or powerful sun-light. Nothing more than this is necessary to insure on established plants a rich display of beautiful blossoms, for to its other attractions this species joins that of being a most abundant and free bloomer. Ed.

ON THE CULTIVATION OF THE AURICULA.

By Mr. J. Atkins.

The Auricula, one of the earliest and favourite flowers of spring, still continues to be very generally cultivated, and many new varieties are still produced.

The compost which I generally use is one part rich loam, one of leaf mould, one of decomposed horse or frame dung, and one ditto of cow dung and river sand. For strong plants, intended for exhibition, I would add to the same compost, as a stimulus, a portion of well-decayed night soil, with the application of liquid manure once or twice before top dressing in February, and again in March ; this, if made with one peck of sheep dung and the same of horse droppings, put into a large tub of water, and left to ferment about a week before it is used, may be applied with good effect and perfect safety.

In Winter, Auriculas do not require much of our attention beyond watering them occasionally, plucking off the dead leaves, and covering them with mats or litter during severe frost. I prefer keeping them rather dry than otherwise during winter, by placing them on boards in frames. I generally top dress my plants about the middle of February, and give them a little manure water about twice in the course of the month.

Spring.—To insure a good bloom, much depends upon the care taken of the plants in March, when their trusses are forming; let them receive no check whatever, either from want of covering or of water, as they show the effects when they come in bloom. Give plenty of air at all opportunities, to prevent their drawing and becoming weak, so that they are not able to support their trusses of flower. By the end of the second week in April, the flowers will begin to expand and show their colours, and the lights must be kept on by day and night, to prevent the heavy rains from washing them or their being tarnished by the sun, either of which would spoil their beauty. I generally give air by lifting the lights at back of their frames, shading them during the heat of the day and shutting them up in the evening. When the flowers begin to expand, I thin out the crowded pips, so as to give room to the others. When my plants are fully blown I generally place them under a fence or hedge, elevated on boards, or coal ashes, with hand glasses placed over them, as in this position they last so much longer in bloom. As soon as the flowers begin to fade, if seed is required, care must be taken to pick the dead flowers off as soon as they have become dry; then take the plants and place them where they will be sheltered from the hot sun and heavy rains till November, when they should be placed on a raised platform, and sheltered from the heavy rains by boards or shutters, hanging on hinges, to let up or down as occasion requires. I generally begin to pot my plants about June, or sometimes later; I generally remove the offsets about March, because they grow quickest in spring. In doing this, care ought to be taken not to rend the main root of the old plants, which would often produce canker and rottenness: less injury will arise from a clean cut with a sharp knife than from a forcible separation by the fingers. The seed of the Auricula should be sown in January, in very light compost, and covered very thinly over. The pots should then be placed on a little heat, as it will vegetate sooner; as soon as they are up remove them to the greenhouse, and cover with a hand-glass till they are hardened off, and when the plants are sufficiently large, transplant them into small pots, placing four or five together in a compost of one half leaf mould, one quarter cow dung, one quarter sandy loam, which I find most suitable for them.

The principal points to be attended to are, to put plenty of broken tiles at the bottom of the pots to secure a good drainage; to shorten the tap roots of old or strong plants; to place them in a shady spot in summer; and to guard them from too much wet in autumn.

There are five distinct classes of varieties; viz., the green-edged, grey-edged, white-edged, plain or self-coloured, and the shaded alpines.

CULTURE OF THE PELARGONIUM.

By Mr. W. Smyth.

The seeds of the Pelargonium should be sown as soon as they can be had ripe, or early in the spring, and then they will make strong plants for the following spring. Sow it in 48-size pots, well drained with broken pots covered with moss, in a soil composed of equal portions of loam, leaf mould, and sand, which should be well pressed down; cover the seed with a quarter of an inch of the mixture, slightly press it smooth, and then sprinkle the whole with a fine rose watering-pot, and place them in a frame or pit where there is a little bottom heat; as soon as the plants make their appearance, air must be admitted to prevent them from drawing or damping off, and when they have four or five leaves they may be potted into small 60-size pots, placing them back in the frame, where they should be kept close for a few days, after which air may be again freely admitted. By the latter end of September they may be taken to the greenhouse, or pelargonium house, where they will remain all the winter, keeping them as near to the glass as possible; air must be admitted on fine days. In March they may be shifted into 48-size pots, where they will remain till they flower.

Propagation by Cuttings.—By the latter end of June the plants will be going out of bloom, and it will be best to cut them down, and prepare the cuttings as follows: — Cut just below the joint, and then take the two lower leaves off. I prefer the points of the shoots, for they make the best plants, and do not stop the cutting till they have taken root. The compost that I use is loam, sand, leaf mould, and peat, in equal quantities, well mixed. Take 32-size pots, well drained, and fill them with the above compost, well pressed, and sprinkled with a fine rose water-pot; put the cuttings in with a small pointed dibble, closing the soil to the cutting, and place them in a cold frame on ashes, shading them during the day with a mat. As soon as they have struck root they may be potted off into 60-size pots in the above compost, and placed in the cold frame for two or three weeks; admit plenty of air, and as soon as they fill the pots with roots they may be shifted into 48-size pots, and exposed to the open air in a full east aspect, where they can remain until they are taken to their winter quarters; let them then be placed as near the glass as possible to prevent them from drawing. Water ought to be used very sparingly until March.

CULTURE FOR LARGE SPECIMEN PLANTS. — In April select some of the best young plants just mentioned, and shift them into 24-size pots, stopping them all the summer at every third joint; by the beginning of June they may be exposed to an east aspect, and care must be taken not to let them get pot bound, or neglected for the want of water; and if they are infested with insects they must be fumigated with tobacco, and kept well syringed; by September they will be good bushy plants, and they may then be taken to the house where they are intended to flower; place them near the glass without its touching the foliage, give them all the air possible in fine weather, and let them be frequently well fumigated; water must be sparingly used until March, when they may be shifted into the flowering pots, No. 6, or 8, or 12, well draining them as directed before, according to the size of the plants. The plants must be regularly trained round the pots. The manure water that I shall recommend there will be no danger in using, and it will be found very beneficial to the plants: — Take one bushel of sheep's dung to 20 gallons of water; or, if sheep's dung cannot be got, two bushels of rotten horse-dung; let it stand three or four days, and then water them three times a week, until they show their colours. As soon as the plants have done flowering they should be cut down to the last two eyes of each leader; place them in a cold frame until they have broken, when they may be shaken out of their pots, and repotted into as small a size as they can conveniently be got into; place them again in the frame until they are rooted to the side of the pot, when they may be shifted into a size larger, sprinkling them over the head every evening. I do not recommend old plants to be grown, as neither their trusses nor flowers are so large, nor the colours so good, as those of young plants, but the flowers are more numerous. The compost that I recommend for growing specimen plants is two parts rich turfy loam, one part two-year old rotten dung, and one half part sand and turfy peat, well mixed together, chopped fine, but not sifted.

Horticultural Essays,

By the Members of the Regent's Park Gardeners' Society.

VENTILATION OF EARLY FORCING-HOUSES.

By Mr. T. Moore.

In considering the question how far the admission of air to forcing-houses is practicable and proper, it is natural to ask, in the first place, for what purpose the admission of the external air is resorted to.

The lights, and the other various contrivances for the admission of air, seem to be opened for one of these reasons, — either to regulate and lower the temperature; to allow the escape of impure air, or that from which some essential constituent has been abstracted by the plants; and to allow the ingress of another portion of the atmosphere more perfectly charged with all its necessary elements: the former of these points is a distinct consideration; the two latter merge into one.

The admission of cold air as the sole or even principal agent in regulating the internal temperature of a forcing-house, at an early period of the season, seems to me to be perfectly unjustifiable. There are indeed instances in which it can hardly be avoided during the time that artificial heat is applied, but these constitute exceptions rather than the rule. There are periods of the year, too, when it is unnecessary to apply artificial heat at all, and when it is utterly impossible to avoid having recourse to the practice; but it is not to this part of the season that the present remarks are intended to refer. As an illustration of the exceptions just referred to, we may suppose a case in which the external cold, and the degree of heat internally applied, were so exactly balanced as to render the temperature precisely what was desired: in such cases, and under such circumstances, a sudden sun-burst, by at once changing and overturning the pre-existing conditions, would also destroy the balance between them and the internal heating power; and then the admission of external air, so far as it were desirable to prevent an increase of internal temperature, would obviously be the proper course to pursue. In other, and more ordinary cases, I cannot think that the same rule applies. It is by no means an unusual thing to hear recommendations to apply a higher degree of artificial heat than would otherwise be requisite, in order *to be able to give air;* this appears to mean, to be labouring under a disadvantage. Heat, as applied in early forcing, is altogether artificial, and therefore so far unnatural; and it appears to me still more unnatural to apply more than is requisite for the purpose of having to cool the internal by admitting the cold external air, without, as I conceive, securing any equivalent advantage. It would appear to be more reasonable, as well as economical, to apply as *much heat* as was desirable, and no more; or, at least, as near to this point as could be gained. But then it may be said, that it would be unsafe to work so close to the desired point, as a sudden change out of doors might be felt unfavourably within. To some extent, under present circumstances, this might be true; but then the object to be kept in view would be, so to improve upon present circumstances as to obviate the risk and inconvenience which might otherwise thus ensue. It is not when the mild and genial weather of spring is experienced that these remarks have any forcible application, but previously to this, when the outward elements are unfavourable to the developement of vegetable life.

The reduction of the price of glass will admit the use of a better article than hitherto, and also of more exact workmanship, and this alone would prevent a good deal of the influence of external changes being felt within at an early part of the season. At present forcing-houses generally, instead of having the very best of material and workmanship, are constructed with the very worst, the best being applied to greenhouses and conservatories, where, beyond the appearance of them, they are less required. Then again, in boilers and heating apparatuses, there is much to be yet accomplished; and even though an apparatus of greater power than has hitherto been attained should not some day be contrived, yet in adapting those at present in use, and in erecting them so as to have a perfect control over them there is much to be accomplished. One half of the heating apparatuses at present erected perform their work without such a thing as control over them being known between the two extremes; and the greater part of the other half are very far from being perfect in this respect. Here, then, is the point to which improvement should be directed: provide an apparatus which in a few minutes will produce a greater or less amount of heat, as it may be required, almost with mathematical exactitude, and then there can be no serious risk in not maintaining an uniformly unnecessary degree of heat.

The other consideration which refers to the escape of the deteriorated or confined air, and the consequent necessity of admitting a fresh volume in its place, does not appear to offer insurmountable difficulties in the way of a belief that the admission of air is very frequently carried to an injurious excess. Admitting that plants in the process of growth, and in the discharge of their vital functions, do abstract certain matters from the atmosphere about them, there is nothing, even in this, to render the admission of fresh air, in volumes of any considerable extent, at all necessary. The elastic and all-pervading properties of the atmosphere must not be lost sight of. Under any circumstances, and with the mode of construction at present adopted in hothouse architecture, a considerable interchange will be found to take place between the internal and external volume; and, with evidence of the successful growth of plants, in situations so far closed up as the Wardian cases, we cannot do otherwise than believe that this interchange, which takes place as it were of necessity, is sufficient to secure the health and vigour of the plants, so far as the admission of air alone is concerned. If it is argued that deterioration will take place by reason of evaporation from flues or pipes or any substances confined within the structure, or from the decomposition of any organic matter, the same fact of an interchange continually going on is sufficient to meet the case, so far as to show that on this ground at least the admission of a large bulk of external air is not at all essential. Besides, with a proper routine of management, the gases which arise by means of evaporation from ordinary surfaces, or the decomposition of ordinary substances, should be beneficial to vegetation rather than detrimental; and it can only be in cases where gross mismanagement of some kind or other exists, that they can be productive of any injury or inconvenience.

While such considerations as these seem to point out that the admission of air to any great extent to forcing-houses, at a very early part of the season, is not on good grounds a matter of urgency, and that at any rate the influx of large volumes of cold air is decidedly hurtful at that time of the year, yet the other extreme must not be fallen into, for the process may not altogether be dispensed with. It does appear, nevertheless, that the regulation of the temperature, — the prevention of too powerful a degree of heat, when the source of that heat is the sun, — is the great end to be effected by the practice. If there are any other real advantages, they are certain to follow, if air is admitted for this purpose alone; and these advantages, if any there are, are not likely to be lost, if air is not admitted, when it is not necessary to do so with this primary purpose in view. Periods of bright sunshine, then, may be regarded as the only instances in which a recourse to the practice is absolutely necessary.

From all this the conclusion at which I have arrived is, that with a proper system and routine of management, as regards atmospheric humidity and temperature, the admission of large volumes of the external air to the interior of forcing-houses is not politic, nor by any means so essential as it is generally represented to be. Whatever other difference of opinion may exist with respect to this point of practice, it cannot be denied that a risk is incurred, and frequently an injury sustained, when cold air comes in contact with the tender organs of forced plants, at an early part of the season; and therefore, if no other advantage than the regulation of the temperature is derived from the practice, then, except in cases when the internal heat is increased by the influence of the sun, and therefore uncontrollable, it would be a wiser course to apply a less amount by artificial means, thus rendering it less necessary to allow the superabundant portion to escape, and exposing the plants in a less degree to the risk already alluded to.

Even in those cases in which it is really necessary to have recourse to the practice, much injury may be sustained by admitting it in a rash and improper manner. It should be so contrived that the change to be effected may be brought about gradually, and the cold and heated volumes should be made to intermingle regularly, and as far as possible in every part of the house; thus if it were desirable to admit a foot or yard of cold air, this foot or yard could not be allowed too many points of ingress.

The subject might be considerably extended, were not the present paper already sufficiently long.

May 1*st*, 1845.

GLOSSARY OF TERMS USED IN BOTANICAL DESCRIPTIONS.

(*Continued from* p. 155.)

BACCA. A berry, distinguished chiefly by their vinous properties.

BACCATE. Bearing berries, having a fleshy covering.

BAGGED. Resembling a pouch or bag.

BANDS, OR VITTÆ. The flattened or hollow spaces between the elevated ribs of the fruit of umbelliferous plants.

BAND-SHAPED. Descriptive of the form of an organ whose length is much greater than its width.

BARBATUS. Bearded.

BARK. The external covering of the stems and roots of all cotyledonous plants, increasing annually on dicotyledones by an additional deposit.

BARS. Distinct lines of colour upon the floral portion of a plant.

BASAL. Proceeding from the base.

BASE. The point of union between an organ and its support.

BASINERVIS. When the veins of a leaf extend from one extremity to the other without subdividing.

BEAK. A pointed projection, resembling the beak of a bird.

BEARD. An hairy pubescence usually attached in tufts, used improperly as a synonym for awn.

BEARDLETTED. Having small awn-like processes.

BEDEGUAR. A fibrous excrescence, frequently seen on the rose, occasioned by the puncture of a cynips.

Bi-acuminate. Applied to an organ when divided so as to present two points.

Bi-conjugate. When a general petiole or leaf-stalk is extended at its apex into two secondary or smaller petioles.

Bicormis. Having two horns.

Bi-cuspidate. Having two points.

Bidentate. Double-toothed, when the angular points of a dentate leaf are themselves toothed.

Biduus. Continuing for two days.

Biennial. A plant which requires two years to produce its seed, and then dies.

Bifarious. Arranged in two rows.

Bifid. Two-cleft, divided nearly half the length.

Bigeminate. Synonym for biconjugate.

Bigugate. When a pinnate leaf possesess but two pairs of leaflets, with or without the terminal one.

Bilabiate. Having two lips, when the mouth of a single-petaled flower is divided into two parts.

Bilateral. Arranged on two opposite sides.

Bilobed. Double lobed.

Bilocular. Applied to seed-vessels containing two cells or cavities.

Binate. When two leaflets proceed from a common petiole.

Bipartible. Applied to fruit which is readily divided into two similar parts.

Bipinnate. When the secondary petioles of a compound leaf are arranged pinnately or opposite to each other, and the leaflets in a like manner on them.

Biserrate. Double serrated, the serratures of a leaf being themselves knotched.

Biternate. When both the leaflets and secondary petioles of a doubly-compound leaf are ternate.

Bladders. Cellular expansions common to many aquatic plants, by means of which they are enabled to float.

Blade. The limb or expanded part of a gramineous leaf.

Blanched. The whitened appearance which vegetation assumes in the prolonged absence of light.

Bland. Lovely, fair.

Blight. A vague term applied to all diseases of plants.

Bole. The trunk of a tree.

Bony. Formed of a hard brittle substance, as the stones of many fruits.

Boluliformis. Sausage-shaped.

Brachiate. When opposite pairs of branches cross each other alternately.

Bracts. Leaves seated on the peduncles and pedicles, varying both in form and colour.

Bracteola. Small bracts, placed near to the calyx.

Bristles. Short rigid hairs.

Brunneus. Deep brown.

Bulb. An underground bud, seated immediately over the root; the two principal forms are the scaly bulb as in the lily, and the laminated bulb of the tulip.

Bulbiferous. Disposed to produce bulbs, or the parts of a plant which do produce them.

Bulbillus. Bulbiferous buds produced above ground on the stems of lilies, &c.

Bulbo-tuber. Synonym for cormus.

Bulbus. A bulb.

Bulbulus. A young bulb.

Bullatus. Having a bubbled or blistered appearance.

Byssaceous. Composed of delicate cotton-like filaments, as the roots of some mushrooms.

LIST OF NEW PLANTS.

Iridaceæ. — *Triandria Monogynia.*

Iris imbricata. This is a very showy perennial, which most probably will prove quite hardy in the open border; it appears to be a mere variety of *T. squaleus*, from which it differs in its pure lemon-coloured flowers, and in the short blunt convex bracts which invest their base. It has flowered with the Hon. and Very Rev. the Dean of Manchester. — *Bot. Reg.* 35-45.

Anacardiaceæ. — *Polygamia Monœcia.*

Rhus diversiloba. This shrub was brought from California by R. B. Hinds, Esq., who found it in that country. The country people call it Yeara, and say it poisons on contact, or even through the air, in which respect it resembles the common poison oak, *R. Toxicodendron*, to which it is nearly allied. Indeed it is so like that species, that if it were not for an upright unscrambling habit, and very blunt leaflets, it might be looked upon as a mere variety. Mr. Hinds says that the bush was common everywhere in California, but that he never witnessed any bad effects from it. It will probably prove hardy. — *Bot. Reg.* 38-45.

LILIACEÆ § ASPHODELEÆ. — *Hexandria Monogynia.*

Ornithogalum nanum. A pretty little hardy bulb which grows freely in very rich sandy loam, and flowers in March. It is certainly very distinct from any of the genus otherwise in cultivation; its stiff narrow leaves and short-stalked dwarf corymbs offering characters not to be mistaken. It is said to grow in marshy meadows at Berbeck, near Constantinople. According to Sibthorp it occurs in dry hills in Arcadia and about Abydos. — *Bot. Reg.* 39-45.

GROSSULACEÆ. — *Pentandria Monogynia.*

Ribes sanguineum flore pleno. This is a seedling variety possessing double flowers, of the well-known scarlet-blossomed currant, and must prove a most acceptable addition to our early spring flowering shrubs. The racemes are rather larger than those of the parent species; the flowers full and double as a rose, and the colour a rich vivid crimson. It is described as being about three weeks later in flowering than the original species. The merit of originating this valuable hardy shrub is due to Mr. David Dick, gardener to the Right Hon. the Earl of Selkirk, at St. Mary's Isle, Kircudbright. — *Pax. Mag. Bot.*

GENTIANACEÆ — *Pentandria Monogynia.*

Chironia floribunda. Respecting the native country of this pretty bright-red flowering little plant we have no direct evidence; but, like the rest of the family, it has doubtless been obtained from the Cape of Good Hope. It was introduced to this country from the continent last year by Messrs. Jackson, of the Kingston nursery, and is identical with the *C. Fisheri* of Messrs. Rollison's establishment, obtained about the same time from a similar source. In character it is a low-growing plant, divided into numerous branches, which spread out in a lateral direction and speedily form a neat compact bush, flowering near the extremity of each shoot.—*Pax. Mag. Bot.*

Leianthus longifolius. A rare plant in our gardens. It was introduced, however, to Kew as early as 1793, by Capt. Bligh, of H. M. S. Providence, and then lost to our collections till 1825, when it was published in the Botanical Register from plants in the nursery of Messrs. Lee and Kennedy, at Hammersmith. Again it seems to have been wanting to our stoves till the summer of 1844, when it flowered in that of His Grace the Duke of Northumberland at Syon, and that of Kew, to both which places the seeds were sent by their collector, Mr. Purdie. The habit of this plant very nearly resembles that of L. nigrescens; the flowers, however, are bright yellow. — *Bot. Mag.* 4169.

MUSACEÆ. — *Pentandria Monogynia.*

Strelitzia Augusta. Anteniqua Land in Southern Africa is the station assigned for this plant by Thunberg, who describes the native caudex or trunk as eighteen feet long, and the leaves and petioles from the summit of that nearly as much more. It was introduced to Europe in 1791, by Mr. F. Masson, then Botanical Collector for the Kew Gardens, where it has lately flowered; the flowers are like those of *S. Reginæ*, except that they are pure white: the spathe, however, affords a fine contrast in its exceedingly rich deep purple tint. The Kew plant has, including its leaves, attained a height of twenty-three feet. — *Bot. Mag.* 4168.

MALVACEÆ. — *Monadelphia Polyandria.*

Sida (*Abutilon*) *pæoniæflora.* Another of the interesting discoveries of Mr. Wm. Lobb in the Organ Mountains of Brazil. It is a strong-growing plant, forming a tall shrub or small tree, with large handsome foliage and corresponding flowers of a pleasing rosy-crimson colour, produced from the axils of the leaves near the extremity of the shoots. It will rank in the section *Abutilon*, and along with *Sida picta* and *S. Bedfordianum*. It flowered in the stove of Mr. Veitch's Nursery, in January, 1845. — *Bot. Mag.* 4170.

Leguminosæ. — *Decandria Monogynia.*

Gompholobium barbigerum. One of the most beautiful of the many New Holland *Leguminosæ*, confounded by Sieber with the *G. fimbriatum*, but correctly determined by De Candolle, and named by him *barbigerum*, in allusion to the curious, deep, beard-like fringe on the margins of the keel of the corolla, by which character it is readily distinguished from *G. grandiflorum*, and no less easily by its broader leaves and larger (and brighter yellow) flowers. It flowered in the greenhouse of the nursery of Messrs. Lucombe and Pince, who appear to have been the first to introduce it alive to this country in April, 1845. — *Bot. Mag.* 4171.

Begoniaceæ — *Monœcia Polyandria.*

Begonia albo-coccinea. One of the most lovely of this beautiful genus, which we cannot too much recommend for cultivation to all admirers of hot-house plants, blooming throughout the spring and summer months; the flowers are numerous, white and coral-red. Our plants were raised in the Royal Gardens of Kew, from seeds sent from India by —— Strachan, Esq. of Twickenham, Surrey. — *Bot. Mag.* 4172.

Orchidaceæ § Vandeæ. — *Gynandria Monandria.*

Odontoglossum Cervantesii. Of the beautiful things belonging to the white-lipped section of this genus not one is more perfectly lovely than the present. It is in the way of the well-known O. Rossii, but its large, thin, delicately pink flowers, banded with crimson near the centre, are in all respects much handsomer. It was imported by Messrs. Loddiges from Oaxaca. Among other valuable attributes the plant has that of being very sweetly-scented, emitting a delicious odour, something like bitter almonds. — *Bot. Reg.* 36-45.

Oncidium spilopterum. A beautiful species, seeming to be intermediate between *O. Lanceanum* and *Carthaginense.* Its flowers are large and yellow, with small brownish-purple sepals and petals; the base of the labellum is the same colour, while the wings of the column are clear yellow, spotted with crimson. The flowers grow in an erect raceme, longer than the leaves. — *Bot. Reg.* 40-45.

LITERARY NOTICE.

Hortus Cantabrigiensis, (*13th ed. enlarged and brought down to the present time,*) by P. N. Don. *Longman & Co.* The want of a complete catalogue of all the plants known to our gardens has been severely felt for several years, the vast number of accessions constantly pouring in having annually increased the difficulty, until the whole of the published works of this nature were becoming nearly useless. The appearance of the present work is, therefore, most opportune; and what is more, it is as correct as a book of the kind can be expected. Arranged on the Linnæan system, with separate indexes of the popular and scientific names, and the recent alterations and divisions of genera particularly marked, reference of any kind is rendered easy, and the information conveyed is both concise and satisfactory. It is just the book a gardener requires, and we receive it with a hearty welcome.

FLORAL INTELLIGENCE.

Royal Botanic Society.

The second exhibition for the season took place in the Society's Gardens, Regent's Park, on Wednesday, June 4th. Her Majesty, Prince Albert, and suite honoured the meeting with their presence. The plants were magnificent. Mr. Barnes, gardener to G. W. Norman, Esq., Bromley, received the first prize for a collection of thirty miscellaneous plants, comprising among others, unequalled specimens of Aphelexis humile and A. purpurea, Gomphelobium tenellum, Clereodendron squamatum, Pimelia Hendersonii, Ixora grandiflora, Erica odora rosea, Polygala cordifolia, &c.

Mr. Hunt, gardener to Miss Trail, Bromley, was awarded the second prize for a similar collection: collections of fifteen stove and greenhouse plants were shown by Mr. Frazer, nurseryman, of Lea Bridge Road, and Mr. Pawley, Bromley. The first, Mr. Frazer's, contained fine plants of Boronia pinnata, B. serrulata, Chorozema varium, Aphelexis sesamoides, Azalea sinensis, &c. In the collections of ten plants the prizes were awarded, first, to Mr. Green; second, to Mr. May; third, to Mr. Kyle; and fourth, to Mr. Bruce. We particularly noticed in Mr. Green's group a splendid plant of Coleonema pulchrum, a good Calanthe veratrifolia, and a well grown Azalea Gladstanesii.

The Roses in Pots formed quite a feature in the exhibition; the prizes were awarded among nurserymen, first, to Messrs. Paul; second, to Mr. Lane; third, to Mr. Laing, and an extra to Mrs. Stedman. The most remarkable flowers among them all were La Reine, Hybrid Perpetual, rich rose-colour; fine formed, and perhaps the largest flower in cultivation; Comte de Paris, lilac; William Jesse, large crimson; Armosa, rosy blush; Theresita, carmine, Emilie Courtier, crimson; Eliza Sauvage, pale yellow; and Theresa Isabella, white. Among amateurs, Mr. Dobson, gardener to E. Beck, Esq. received the first prize for a collection of ten, and A. Rowland, Esq. a certificate for a similar collection.

The Heaths were numerous and beautiful. Messrs. May, Barnes, and Taylor contributed fifteen each, and were placed as their names occur: groups of twelve were shown by Mr. Frazer, and Messrs. Fairbairn, of

Clapham; the latter collection was truly splendid, and received the principal prize; the specimen of Cavendishii contained in it is, we think, without a compeer. Collections of eight were sent by Mr. Hunt and Mr. Green, and others, of six each, by Mr. Bruce, Mr. Roser, and Mr. Reid.

Two large collections of Orchideæ were shown, the first, by Mr. Mylam, containing the magnificent and rare Sobralia macrantha, Stanhopea tigrina, Cattleya labiata, several Oncidiums, Cirrhea, Brassias, &c.; the second by Mr. Robertson. Collections of ten were sent by Messrs. Veitch, Mr. Don, and Messrs. Henderson; and a group of six from Mr. Plant.

The Pelargoniums were decidedly the best we have seen during the present season. The first prize for twelve new and superior varieties was awarded to Mr. Dobson for the following:—Sir R. Peel, Matilda, Favorite, Susanna, Sultana, Pulchellum, Leonora, Lord Chancellor, Lurida, Zanzummim, Conflagration, and Marc Antony: Mr. Staines received the second prize for Superbe, Sunrise, Enchantress, Erectum, Madeleine, Alice Gray, Duke of Cornwall, Roulette, Hebe, Lady Sale, Adonis and Sunbeam, the two latter being seedlings of 1844, and very promising flowers: the third prize was awarded to Mr. Cook. Collections of eight were shown by Mr. Coysh and Mr. Bell, and one of twelve by Mr. Parker. In the nurserymen's class, Mr. Gaines obtained the first prize of twelve new kinds, as also the same for the best grown twelve, and Mr. Pamplin the second. Several seedlings were present, and some excellent flowers were among them; those selected from the seedlings of 1844 were, first, Aurora, second, Arabella, and extras for Rosy Circle, and Bellona; all these were from Mr. Beck. A certificate was also awarded to the same for Caliph, a seedling of the present season.

The first prize for twelve fuchsias was obtained by Messrs. Lane, and the second by Mr. Gaines; extras were awarded to Mr. Kendall and Mr. Robinson.

Cinerarias, in fours, were shown by Mr. Kay, and among nurserymen, by Messrs. Lane and Mr. Gaines. The first prize for six Calceolarias was given to Mr. Garrod, the second to Mr. Wren, and in the nurserymen's class, first, to Messrs. Henderson, and second, to Mr. Gaines. A first prize for thirty-six Pansies was awarded to Mr. Brown, and an extra to Mr. Bragg for a similar lot. Among seedling Calceolarias, which were very numerous, the best was from Mr. Kinghorn, called Exemplar; the second, Climax, from Mr. Gaines; and the third, Lacerta, from Mr. Garrod, received certificates. Two collections of ferns, several of British plants, and some native Orchideæ, were also present. Single specimens of superior cultivation were very numerous: the awards were, first, to Mr. Roe, for Aerides odoratum; second Messrs. Lucombe & Co. for Certoceras reflexa; third, Mr. Pawley, for Stephanotus floribundus; fourth, Messrs. Veitch for Erica Cavendishii, extra to the same for Xanthosia rotundifolia; two extras to Mr. Bruce, for Pimelea spectabilis and Aphelexis humilis; extra to Mr. Franklin, for Pelargonium Frankliniana; two extras to Mr. Barnes, for Aphelexis humilis, and Leschenaultia formosa; extra to J. B. Craswell, Esq. for Pavetta Caffra, extra to Messrs. Lucombe Pince & Co., for Erica intermedia.

For new or rare plants in bloom, first, to Messrs. Lucombe & Co., for Dipladenia crassinoda; second, to the same, for Vesalia floribunda; also a second to Messrs. Veitch, for Fuchsia serratifolia, and two third prizes to the same for Vesalia floribunda and Siphocampylos sp.; also a third to Mr. Jack, for Dipladenia crassinoda; extras to Mr. Barnes, for Luxemburgia ciliosa; and to Mr. Plant, for Leianthus nigrescens.

For new or rare plants not in bloom, first, to Messrs. Lucombe & Co., for Drimys Winterii; second, to Mr. Slowe, for Veronica speciosa.

Two collections of tall Cacti, the first from Mr. Green, the second from Mr. Bruce; one of Alpines, from Mr. Wood; a collection of Verbenas, from Mr. Turner, and a floral device from Mr. W. Burton, completed the exhibition.

NOTTINGHAM FLORAL AND HORTICULTURAL SOCIETY.

On Wednesday the 25th June, the second show of the above Society for the present season was held at the Exchange Rooms. The exhibition was opened to the public at two o'clock, and a numerous and highly-fashionable company soon after assembled.

The three large rooms were, on the present occasion, thrown into one, and could scarcely then contain the numerous specimens exhibited.

The Roses were splendid. This department was greatly enriched by the splendid collections from the gardens of Mr. Pearson, of Chilwell, and Mr. Frettingham, of Beeston, and more especially by a beautiful box of wall-roses, from the first-named gentleman.

The Pinks were very good ; and the miscellaneous collections of cut flowers were gorgeous in the extreme, and greatly admired.

The large room was filled with plants, of which the Pelargoniums occupied a considerable space, and were remarkably fine.

The Fuchsias were numerous, and attracted much attention.

There were six splendidly-grown greenhouse plants from A. Lowe, Esq., for which the first prize was awarded.

The Ericas were remarkably fine, especially the best single specimen (Jasminiflora), forwarded by A. Lowe, Esq.

The following were the awards : —

Ranunculuses.

Best eight blooms—Bienfait, Triumphant, Naxara, Melange des Beautés, Mr. Welsh, Tysoe's Cathcart, Bishop Von Lima, and Socrates — Mr. S. Moore.

Second ditto — Seedling, Sulphurea, Atlas, Melange, Fingal, Arbrisscan, Bishop, and Socrates — Mr. Taylor.

Best collection—La Temeraire, Socrates, La Dame, Cathcart, Triumphant, Fingal, Goliah, Apollo, Attraction, Amiens, Alice Gray, Hedley's Seedling, Grand Romano, Orissus, Carmus, No Proxy, Queen Victoria, Megellon, Pirate, Naxara, Mungo Park, Carouse, and Panache Superb — Mr. S. Moore.

Roses.

Best amateur's pan of twenty-four blooms — Reine de Provence, De Metze (Moss), Aspasie, Madame Dubarry, Boula de Nanteuil, Œilet Parfait, (French), La Volupte, Enchanteresse (Hybrid Provence), Belle Marie, Fulgens, Reine de Belgique, Fimbriata, Daphne (Hybrid China), Felicite, Princess de Lamballe (Rosa Alba), Chateaubriand (Damask), Bernard, Crimson Perpetual (Damask Perpetual), Coquette de Montmorency (Hybrid Perpetual), Comice de Seine et Marne, Desgaches (Bourbon), Reine de Bassora, Devoniensis, and Josephine Malton (Tea-scented China) — Mr. S. R. P. Shilton.

Best nurseryman's ditto — Archduke Charles, Lee's Perpetual, Kleber, Pactolus, La Ville de Bruxelles, Josephine Beauharnois, Triomphe du Luxembourg, Sylvain, Aubernon, Antinous, Madame Hardy, Yolande Fontaine, White Bath Moss, Crested Moss, Queen of Bourbons, Madame Laffay, Eliza Sauvage, Cramoise Supérieure, Charles Louis, Blanche Fleure, Common Moss, Princess Augusta, Luxembourg Moss, and Persian Yellow—Mr. Pearson.

Second ditto — Taglioni, Nelly, Brennus, Duke of Devonshire, King of Roses, Daphne, Hybrid Laxo, Elizabeth Frier, Madame Hardy, Las Casas, Caroline, Charles Duval, New Bath Moss, Alba Parmentieur, Miss Isaac, Victorine, Camoise Carnea, Richelieu, Grande Monarque, Cramoise Supérieure, George the Fourth, Armosa, Coupe d'Amour, and Thornless Blue—Mr. Frettingham.

Third ditto—Fulgens, King of Roses, Armosa, George the Fourth, Madame Hardy, Duke of Devonshire, New Bath Moss, Old Moss, Kleber, Reine de Provence, Aspasie, Reine de Belgique, Crimson Perpetual, Brennus, Antinous, Cramoise Supérieure, Charles Duval, Crested Moss, Luxembourg Moss, Cambronne, Hypocrate, Madame Plantier, Lady Stuart, and Julia—Mr. Spencer.

Best amateur's twelve blooms—Fulgens, Armosa, Petite Pere, Belle Ellen, Madame Plantier, Tourtonell, Bell Parabere, Duchess d'Orleans, Queen of Roses, Las Casas, Beauté Etheriel, and Tollie Fontaine—Mr. William Cooke.

Second ditto—Triomphe d'Angers, Fulgens, Ne-plus-ultra, Catel, Lilac Queen, Old Moss, Unknown, Rivers's George the Fourth, Velours Episcopale, Tuscany, Juliana, and Unknown—Mr. Taylor.

Third ditto—Madame Laffay, Brennus, Armosa, Duke of Devonshire, Velours Episcopale, Provence, Belle Isidore, Fulgens, Lord John Russell, Camuset Carne, and two Unknown—Mr. S. Moore.

CALENDAR FOR AUGUST.

By far the greater number of our wild plants have flowered ere now, but still enough are to come to repay the assiduous collector. Compositæ and Chenopodiaceæ furnish numerous examples this month; and also Junceæ and Cyperaceæ, both in flower and fruit, the examination of the latter being so necessary to determine the species in the two last-named orders. All the species and varieties of Mints are in perfection, and to those who are fond of fine-drawn distinctions in characterising plants, they will afford an ample feast; in fact, they seem to vary with almost every slight variation of locality. Of doubtful or rare plants several are marked as flowering now. Swertia perennis is one, said to have been found a long while ago in Wales, and still retained in our Flora, although few would be found hardy enough to insist on its right to be kept there. And there are several other plants in the same predicament, and perhaps no subject would be more interesting than the searching the given habitats for such plants, and settling their claims to be included in our native Flora. Mr. Babington, in his excellent "Manual," has distinguished such plants, so that they may be easily referred to, and thus an important step has been taken towards the clearing our lists of the names of such as have not a good right to be considered as truly native.

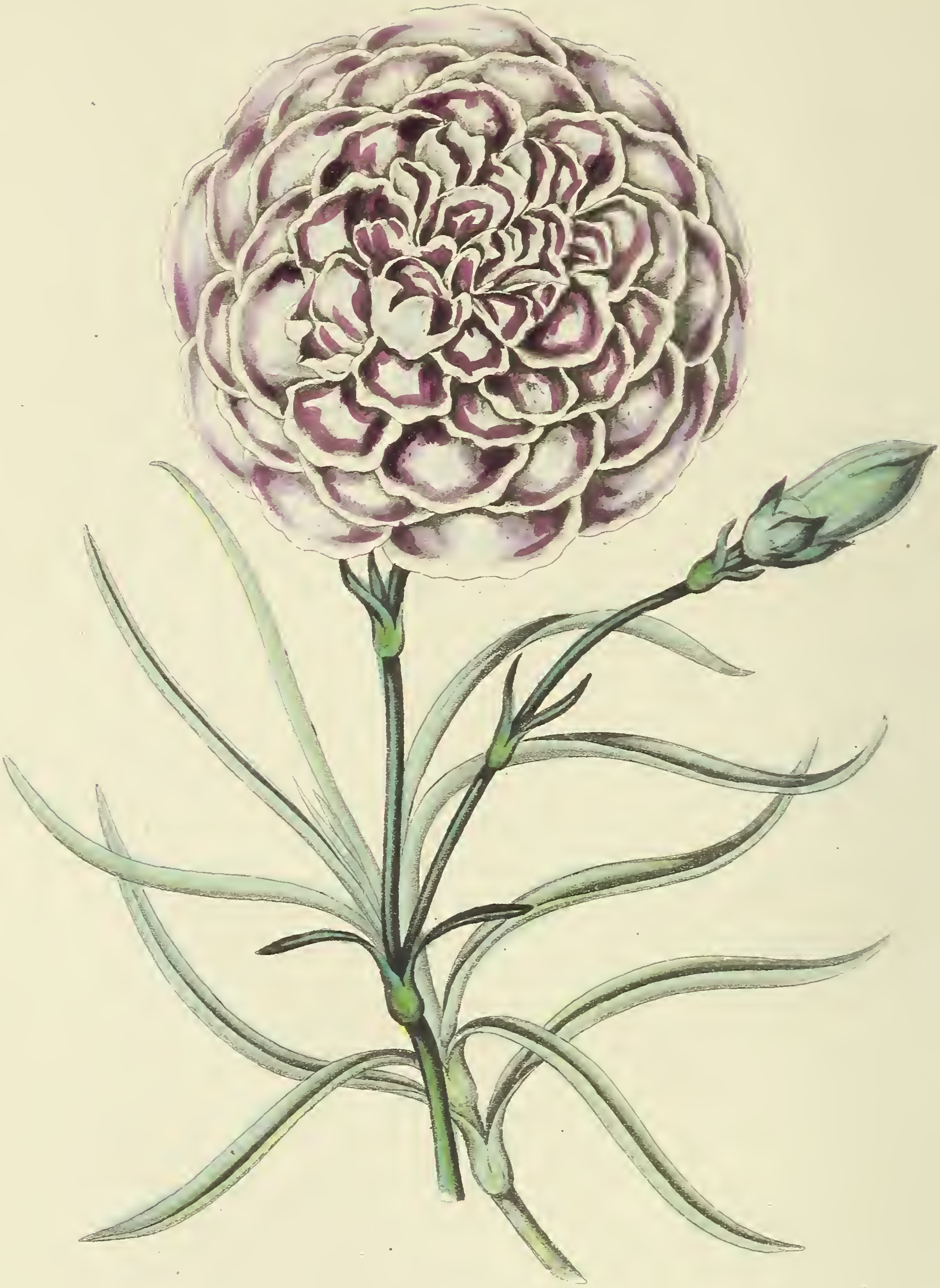
In the Flower-garden the chief points of attention are to have it in high keeping, and to propagate extensively for the next season. There need scarcely be a limit to this but want of room to winter the plants; if there be space, pot the cuttings off as soon as rooted, and get them well established as soon as possible, and much delay will be prevented, and a better display ensured in the next season. No seeds should ever be saved in the flower-garden, as few plants can be kept neat or sightly when in a seed-bearing state.

Greenhouse plants, if out of doors, should be guarded from heavy rains, and great attention paid to stopping and regulating the shoots, care being taken to lessen the supply of moisture as they ripen their wood, for fear an undue supply should again start them into growth, the result of which would be an almost total want of flower in the coming season. These remarks, of course, apply equally to plants in pits or houses, in both which structures a thorough supply of light and air must be maintained to harden the young wood.

In the Stove the same rules are applicable to the hard-wooded plants, and many of them might be kept in very cool houses until they have had a lengthened rest, after which they will grow with greater vigour, and flower much more freely, than if kept in the same house with so many plants of different habits, requiring so many different modes of treatment. All bulbs, tubers, &c., as Amaryllis, Gloxinias, Cannas, and, no doubt, many Orchidaceæ, which are not so used, might be benefited by a similar treatment, in place of attempting to dry them off in a house where the atmosphere always contains more moisture than can be beneficial to plants that require a perfect rest.
D. M.

Florist's Flowers. — Dahlias will now require a large share of attention: tying, thinning the buds and stems, shading the flowers, &c., must be done as soon as necessary. Continue to propagate Pansies, and pot those already struck to stand through the winter. Finish laying Picotees and Carnations. The earth for potting the layers in should be prepared; the best for the purpose is light fresh loam without admixture. Plant out Pinks. The roots of Ranunculuses and Anemonies, Tulips, &c., taken up last month, should receive a thorough drying, that they may be ready for the winter. Roses may still be budded or layered, wherever it may yet be required.

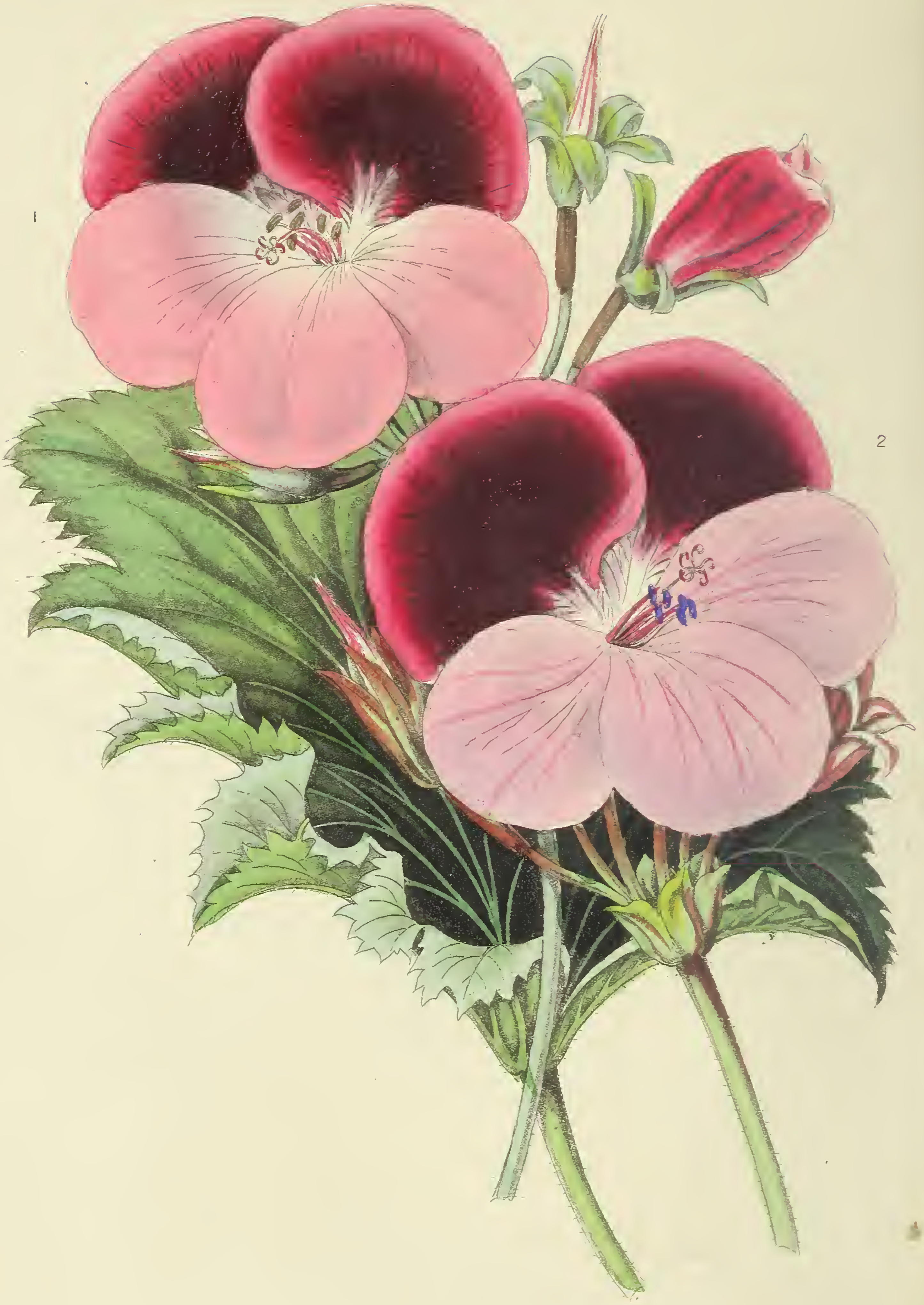
Pl. [illegible]



NEVILLES MONITOR.

Eng^d by [illegible] for [illegible] Journal Sep 18[illegible]

Plate 7



1 LYNE'S MARMION. —— 2 LYNE'S HESPERUS

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THE

FLORIST'S JOURNAL.

SEPTEMBER, 1845.

ON THE PINK.

WITH AN ENGRAVING OF NEVILLE'S MONITOR.

THE Pink is a favourite of such long standing, and has been so universally cultivated, as to be altogether beyond the need of our praise ; in fact, to say any thing of its beauties would be as superfluous as to speak of its culture, both points having been discussed, and we dare say definitively settled, long before we were born. The fancy has, however, descended through several generations somewhat in the manner and even condition of an old heir-loom, respectably antiquated, and we fancy a little too much out of fashion to suit the present advanced taste. Unlike the position of our forefathers, we are surrounded by novelties in such pleasing and varied forms, that each one seems to demand the entire attention, and, under such circumstances, it appears hardly possible for any particular portion of the art to maintain its former standing, without embracing the general onward movement. It is not enough that the flower, be it ever so old a favourite, should be only as good now as it used to be ; it, like all other "forms of the florist," must be improved, and the Pink-fancier will do well to look about him for the most desirable changes he can hope to introduce. In a few years, rose-leaves, as they are termed, or petals with perfectly even margins, will be indispensable ; this, with more substance, and a greater variety and regularity in the disposal of the colours, ought to engage the attention of every one who attempts to raise and perpetuate new kinds.

The reminiscences of pink-growing are always most interesting to us, associated as they are with names whose bare mention conveys an emotion to the breast of every true lover of Floriculture: nor must we forget, that with attention to this flower originated that excellent and most beneficial idea of exhibiting flowers and plants in public competition, a connection which deserves to be commemorated by all possible means; for from the adoption of the plan, Horticulture may date its entire advancement; and no better or more desirable means can be employed to continue this remembrance, than so to raise the general character of the Pink as to ensure for it the prominent position it deserves in all future exhibitions. This it is decidedly entitled to, either for its intrinsic beauty or from the regard it ought to inspire as the foundation and foster-parent of all similar institutions. More than this we cannot wish it; but with less no thorough florist ought to be satisfied.

Our illustration is a seedling of the present season, taken from the extensive and unique collection of Mr. J. T. Neville, of Peckham, a gentleman of whom we can only say, his name alone has ever been sufficient guarantee for any flower.

Ed.

HINTS TO AMATEURS.

Now that the flowering season of most plants is leaving us, the amateur may fancy that his work is done for some five or six months; it may not therefore be amiss to remind him of some particular operations which require attention at this part of the year, and in fact cannot be done at any other time with equal advantage.

First, then, Pelargonium seed should be sown at once, or the plants will not bloom in the ensuing season, and thus the trouble of keeping them two seasons instead of one before their relative value can be ascertained is incurred by the delay of only a few weeks; there are besides several other seeds that succeed much better if sown now, than at any other period; those of all kinds of greenhouse plants, and, I may add, hardy herbaceous plants, together with some of the stronger constituted annuals, are much safer in the ground, than in the drawers of the seed cabinet. Among annuals for ornamenting the greenhouse, either in winter or early spring, Schizanthus, Portulacca, Primulas, &c. may be mentioned as belonging to the latter class, and which should be sown directly, and protected through the winter in frames or the house; others that will blow all through the dull weather are such plants as Nemophila, Clarkia, Viscaria, Erysimum, Lupinus nanus, Mignonette, and a few others; these also should be sown, and potted off as soon as they can be handled, and will afford a pretty display for a long period: with respect to imported seeds, their arrival now becoming of common occurrence, it is always best to sow them as soon as they arrive, unless it be in the very dead of winter. Some growers sow their auricula and tulip seed this month: from this practice, however, I differ, because the Auricula will speedily come up, but will not attain sufficient size before the winter, when the frosts frequently raise them out of the soil, and thus leave them exposed to the wasting influence of the winter's wind, besides the great injury inflicted on the yet delicate roots. Tulips, on the other hand, seldom vegetate before the spring, and this gives the mice a fine chance to shell all your best seed.

Plants for forcing require some examination just now, that they may be in a proper condition to begin with, when the season arrives. Bulbous roots, such as hyacinths, tulips, &c. intended for the same purpose, and which it is desired to have in bloom at an early period, should be potted immediately, and in connection with so much potting and sowing, it is necessary above all things that the various soils required for composts be in their respective places, which should be always under cover, or they cannot be used in the manner most proper when wanted in a hurry.

If alterations of any kind are contemplated, a definite idea of their extent and nature should be come to at once, or it will become more difficult to determine every week, as I hold it to be next to impossible to form a correct estimate of effect, when the surrounding vegetation is entirely denuded of foliage: work of this kind, requiring forethought, should always be decided on in good time, and observation made of its probable appearance before it is put in hand; this often affords an opportunity of adopting improvements which are impracticable when the work is completed.

I may possibly, Mr. Editor, be anticipating your calendar of operations, but there I know you are necessarily brief, which may perhaps afford room for and serve as an apology for my hints. I shall now conclude with one that you have hitherto forgotten to give us. Any one in possession of a promise from a friend of "a few cuttings" should take an early opportunity to make an accidental call, or that uncompromising no-getting-over-able bar to the wished-for accessions, "you are too late," will ring in remembrance with wicked malevolence throughout the entire season.

HORTULANUS.

HORTICULTURAL ESSAYS,

By the Members of the Regent's Park Gardeners' Society.

ON THE CULTURE OF AQUATIC PLANTS.

By Mr. THOMAS DAVIS.

THE aquatic plants of the Eastern hemisphere from their elegance and beauty rank as objects of no mean interest in the catalogue of vegetable forms: some of them are allied by their similarity of structure to the Algæ, as *Zostera* and *Aponogeton* in the natural order *Fluviales*, which may be mistaken for subjects in that inferior class of vegetable organisation; while on the other hand the noble tribe of Nymphææ stands unrivalled for the beauty of the several species of which it is composed. The beautiful blue of *Byblis linifolia* — the rich tinted brown of *Vallisneria spiralis* — the delicate pink of *Nelumbium speciosum* — and the highly fragrant perfume of *Aponogeton distachyon* — have each and all a deep and peculiar interest among other objects which occupy the wide domain of nature.

The different species of aquatic plants belong to no particular order of the vegetable system, but are dispersed through the principal divisions of the natural arrangement. They are indigenous to most parts of the known world; but the British species form very conspicuous and interesting plants to deck the hardy aquarium.

Many of the species which are most difficult of culture are natives of the tropics, and require a congenial atmosphere (varying from 55° to 70° artificial heat, and up to 90° solar heat) to disclose their flowers: as they require intense light, they should be placed near to the glass: where cisterns are used, a waste pipe is requisite to take off the water when becoming injurious to growth.

STOVE AND EXOTIC SPECIES.

LIMNOCHARIS HUMBOLDTII belongs to the natural order Commelineæ; its name is derived from *limne*, mud, *charis*, grace; it thrives in retentive loamy soil, and produces an abundance of its bright yellow three-petalled flowers, if planted in a cistern or tank where a good heat is maintained. Introduced from Buenos Ayres in 1831.

NELUMBIUM SPECIOSUM, from *nelumbos*, its name in Ceylon, belongs to the natural order *Nymphæaceæ*. The delicate colour of its bright pink flowers makes it a desirable object: it requires to be kept dry after the blooming season, and again excited about the beginning of February. The fruit of *N. speciosum* is supposed to be the Egyptian bean of Pythagoras: it grows in great luxuriance in the ditches, in all the hotter countries of the East; and requires intense heat to expand its flowers.

BYBLIS LINIFOLIA, named from *Byblis*, daughter of Miletus, ranks in the natural order *Droseraceæ;* it is a pretty, though minute plant, with blossoms of a beautiful blue, which are produced freely when planted in a good loamy soil; but it succeeds best when placed in a shallow cistern in the stove. Native of New Holland, introduced in 1800.

DESMANTHUS NATANS, a native of China, is a beautiful and interesting aquatic, producing its singular white flowers in abundance if planted in a retentive soil, in a cistern where there is constant heat; while its foliage being dark green, and sensitive to the touch, forms a happy contrast with the flowers. It belongs to the natural order *Leguminosæ*: introduced from China in 1800.

PAPYRUS ANTIQUORUM; derived from the Syrian *babeer*, whence the Egyptian word *papyrus*, paper: it belongs to the natural order *Cyperaceæ.* It succeeds well if planted in a loamy soil, in a cistern of good depth, and produces its apetalous flowers in great luxuriance. It is from this plant the Egyptians made their paper, which was obtained from the pellicle between the flesh and bark of the thickest part of the stem, pressed and dried. Introduced from Egypt in 1803.

Nymphæa cærulea, a very ornamental plant, decking the aquariums of our stoves with its bright azure blue flowers, which it produces in abundance, if planted in a loamy soil with a gentle heat, and kept constantly immersed in water. It succeeds also nearly as well in a pond in a warm situation; but if the season be cold during the time of the expansion of its flowers, they seldom or ever expand so well as in a warm close atmosphere. This beautiful plant derives its name from *Nymphe*, a water nymph habitation, and belongs to the natural order *Nymphæaceæ.* Native of Egypt, introduced in 1792.

Vallisneria spiralis, named in honour of Antonia Vallisneri, an Italian botanist. This curious and remarkable water plant grows with great luxuriance if potted in light turfy loam, and placed in deep water in a warm atmosphere; but succeeds nearly as well in a conservatory or greenhouse. It requires to be kept cool and dry during winter, and removed to the stove in February, which causes it to produce its richly tinted brown flowers in greater luxuriance, than if kept in heat during the winter. It belongs to the natural order *Hydrocharaceæ*, and is indigenous to the South of Europe.

Pontederia crassipes. This is an elegant plant, from its singularly formed, thick petioles, bright green, smooth, cordate foliage, and spikes of lovely blue flowers. It seems almost to despise the material in which most other varieties of aquatic plants rejoice, and floats about, regardless of any fixed station in the element to which it is naturally consigned, but succeeds well if potted in rich loamy soil, and placed in shallow water in a stove. It is named in honour of Julius Pontedera, a professor of botany at Padua; and belongs to the natural order Pontederaceæ. Introduced from Guiana in 1825.

Elodea guianensis, from *Elodes*, a marsh, which is its natural situation. It produces its white and conspicuous flowers about the beginning of August, in a light loamy soil, where heat is kept up. Introduced from Guiana in 1820: it belongs to the natural order *Fluviales.*

Parkeria pteroides, named in honour of C. S. Parker, who first discovered this fern-like plant in Essequibo : its flowers are dark brown, in a short whorl ; and although they are minute, yet its serrated pinnate leaves render it somewhat interesting. It succeeds well in loam and peat with the roots only immersed in water ; it belongs to the natural order *Polypodiaceæ*.

Hydrolea spinosa. This minute plant represents the order *Hydrolaceæ* ; and its flowers vie with the intense blue of the empyrean. The stem and foliage are decked with numerous spines, as a protection to the charming buds which raise their graceful form above them. It grows most luxuriantly in a loamy soil, in shallow water, and placed in a stove where heat is maintained. Its name is derived from *hydor*, water, *elaia*, oil. Introduced from South America in 1791.

Victoria Regina. — This is the most difficult to procure, and most majestic in appearance: it flowers in January in its native country, Guiana. It was discovered by Sir R. H. Schomburgk, in 1837 ; he describes it as " a vegetable wonder." Its immense leaves are from 6 to 7 feet in diameter, salver-shaped, with a broad rim of a light green above and vivid crimson below. Its flowers, resting upon the water, are in character with its leaves, consisting of many hundred petals passing in alternate tints from pure white to rose and pink, about 15 inches across. The leaf on its surface is bright green, in form orbiculate ; the stem of the flower is an inch thick near the calyx, and is studded with sharp elastic prickles, about three quarters of an inch in length ; the calyx is four-leaved, each leaf upwards of 7 inches in length, and three in breadth ; they are thick and white inside, reddish brown and prickly outside ; the diameter of the calyx is 12 or 13 inches. The magnificent flower, when fully developed, resting upon the calyx, completely covers it with its hundred petals ; when it first opens, it is white with pink in the centre, which spreads over the whole flower as it advances in age ; it is generally pink on the second day after its expansion : as an enhancement of its remarkable beauty, it is also sweet-scented.

Hardy and British Species.

The aquatic plants which are cultivated in British aquariums possess considerable and peculiar attractions. The purple of *Butomus umbellatus* gives an imposing effect to British ponds, while the elegant form of *Hottonia palustris*, "the naiad of the stream," enlivens many a month with its rosy flowers peeping from among the sedge, and the dead leaves of grasses by which it is environed *Menyanthes trifoliata* again decks the margin of our English ditches with its interesting and lovely flowers, while the *Richardia æthiopica*, or *Calla æthiopica*, from the remarkable purity of its wax-like flowers, fixed on their long elastic stems, wave in graceful motion by the summer's evening zephyr reflected in the mirrored surface of the water.

The situation best adapted for hardy aquatics is found to be in accordance with the height attained by them; and according to this feature, so must the depth of water be regulated in which they are to be immerged: thus the *Richardia æthiopica*, *Nymphæa alba*, and *Nuphar lutea*, require a depth of from one to two feet, while the *Caltha palustris*, *Hydrocharis morsus-ranæ*, *Sagittaria sagittifolia*, *Acorus Calamus*, *Butomus umbellatus*, *Zannichellia palustris*, &c., should be planted from 6 to 12 inches from the surface of the water; *Hottonia palustris*, *Menyanthes trifoliata*, and *Aponogeton distachyon*, should be potted, and the pot fixed so as to be half immersed in the water. After the blooming season of the Aponogeton is over, and the leaves look yellow, they may be taken up and dried, and again excited in the following March. *Stratiotes aloides*, which is one of the most curious indigenous aquatics, should also be kept with half the pot under water.

As some arrangement is requisite for plants of this description, it is desirable that ledges should be made in ponds or tanks where these plants are to be grown for them to be placed upon, according to their height, and also for the blending of their colours: the low growing varieties, being generally the more tender, should, for this reason, as well as to preserve a more systematic appearance, be placed at the margin, while those of larger growth and greater altitude should be planted towards the centre. The situation for *Nymphæa alba* and *Nuphar lutea* should be either in ponds or fast currents; the two, planted together at the edge of a waterfall, will blend their noble flowers in rich luxuriance amidst the surging foam of the surrounding water. Most of the other species prefer a shady situation, and are to be found in Nature's untrodden wilds,

> "Far from the busy haunts of man;"

shedding their florets of varied hues in gay profusion, as if emanating from the lucid bosom of the water from which they partially derive their sustenance, and diffusing a pleasing lustre over the margin of the willow-shaded pond.

Pine Apple Nursery, March 12*th*, 1845.

GLOSSARY OF TERMS USED IN BOTANICAL DESCRIPTIONS.

(*Continued from* p. 177.)

Caducous. Falling off soon, when one part arrives at maturity and decays much earlier than the associated organs. The term is generally most applicable to the inferior parts of a flower, as the sepals and bracts.

Cæsious. Of a greyish tinge.

Cæspitose. Disposed in crowded turf-like little tufts.

Calamus. A hollow stem without joints, like that of the common rush.

Calathidium. Synonyme for Anthodium.

Calcarate. Spurred, when the tube of a flower is lengthened at the base beyond the foot-stalk, and terminates in a point, as in Tropæolum.

Calcareus. Of a dull white, the colour of chalk.

Calcareous. Containing chalk, or growing on it.

Calceolate — Calceiform. Assuming the form of a shoe.

Calli. Rough hard protuberances.

Callous. Of a hardened uneven surface.

Calycatus. Having a remarkably large calyx.

Calycine. Pertaining to the calyx.

Calyculated. When bracts are placed so as to resemble an additional calyx.

Calyptra. A veil or pointed covering, literally an extinguisher.

Calyptrate. Furnished with a Calyptra.

Calyx. The outermost covering or whorl of the perianth, usually green and more persistent than the corolla, for which, however, it is sometimes mistaken, when highly-coloured, as in the Tulip.

Camara. When the pericarp or seed-vessel is formed of two connected valves containing one or more seeds, as in the Apple.

Cambium. An aqueous secretion found next the bark of dicotyledonous trees; in spring it is highly viscous, and may be regarded as the vital fluid of the plant.

Campanulate. Bell-shaped.

Canaliculate. Having longitudinal furrows.

Cancellate. Lattice-shaped.

Candidus. Pure opaque white.

Canescent. Hoary, applied to the downy covering of leaves and stems which have a grey colour.

LIST OF NEW PLANTS.

Begoniaceæ. — *Monœcia Polyandria.*

Begonia Martiana. With the exception of *B. coccinea* and one mentioned by Mr. Hartweg, there is perhaps no species of *Begonia* yet known that produces flowers of a finer colour than the present. Most of the members of the genus have blossoms varying from a pure white to a pale plush; but in the species before us, we have a rich and delicate crimson pink. The stems are beautifully striated and transparent, like those of the Balsam, and are clothed with neat foliage of a rather diminutive size. The blossoms are large, and sufficiently abundant to impart a most inviting aspect, and the smallness of the leaves only becomes a fault when the plant is kept in a dry atmosphere, or otherwise mismanaged during the growing season. It is a native of Brazil, and was introduced in 1829. — *Pax. Mag. Bot.*

Compositæ. — *Syngenesia Superflua.*

Cineraria. Eight seedlings. No. 1. Lady Prudhoe, a fine large, broad-petalled, deep blue flower. No. 2. Countess of Zetland, an equally fine crimson variety, both of the production of Messrs. Jackson and Co., of Cross Lanes Nursery, Bedale, Yorkshire. And six others: Fairy Queen, white; Emperor of Russia, crimson tipped white; Sapphire, bright cerulean blue; Criterion, blue tipped white; Surrey Hero, crimson; and Desirable, crimson tipped white; from the collection of Mr. Ivery, Peckham; all excellent flowers, of first-rate properties. — *Pax. Mag. Bot.*

Onagraceæ. — *Octandria Monogynia.*

Fuchsia serratifolia. A new and beautiful species from Peru, introduced by Messrs. Veitch, of Exeter. The large leaves are of a deep rich indigo green. The flowers are between two and three inches long, of a very deep clear rose colour, most intense at the bottom, becoming paler upwards, and at last melting into a delicate green at the end of the sepals. The petals are of the most vivid vermilion. Although the flowers appear singly from the axils of the leaves, yet their size is such as to render them very conspicuous objects; and moreover it appears probable that every leaf will produce its flower. — *Bot. Reg.* 41—45.

MAGNOLIACEÆ. — *Polygamia Monœcia.*

Tasmannia aromatica. A hardy greenhouse evergreen shrub, from Van Diemen's Land; it possesses but little attraction, having dull purple branches and small dead green leaves; the flowers, too, are rather inconspicuous, small, white, faintly marked with pink. Every part of the plant, however, is highly aromatic and pungent to the taste. The fruit is occasionally used by the settlers as pepper. — *Bot. Reg.* 43—45.

AMARYLLIDACEÆ. — *Hexandria Monogynia.*

Callipsyche eucrosioides. A very curious bulbous plant, from St. Blas or S. Felipe, on the west coast of Mexico, having dull scarlet flowers, chiefly remarkable for the great length of the green filaments which support the stamens; these are nearly five inches long, and appear, from their weight, to depress the flowers, and, after their protrusion from the limb of the flower, curve upwards, imparting to the whole a most grotesque appearance. The plant usually blossoms before the leaves are produced. It seems to like shade and heat, and flowers in the month of March. — *Bot. Reg.* 45—45.

SELAGINACEÆ. — *Didynamia Angiospermia.*

Selago distans. A very pretty little greenhouse plant of easy culture, and very desirable on account of its early and long continuance in flower; the great peculiarity of this species is its loose spikes of delicately-tinted white flowers, produced all over the plant, and the small, slender, downy leaves, which are solitary on the young branches and fascicled on the old ones. A peculiarity in its culture is, that it should be repotted about the beginning of August, so as to have it well established before winter; for, if repotted in spring, its flowering will be retarded, or entirely prevented. During the summer an ample supply of water should be given to its roots; and in hot weather it must be syringed over head, night and morning. — *Bot. Reg.* 46—45.

GESNERACEÆ. — *Didynamia Angiospermia.*

Achimenes argyrostigma. Among many novelties sent by our collector for the Royal Botanic Gardens from the Sierra Nivada de Sta. Marta in New Grenada, is the present highly-interesting plant. The leaves are peculiarly beautiful, of a rich, velvety dark green, with a tinge of purple, spotted with white, as in *Begonia argyrostigma.* The flowers are white or cream-colour, spotted with red; and, though individually small, yet, being produced numerously on long spikes (which are also numerous), and continuing in beauty for a long period, the plant is likely to become a favourite. It requires the treatment usual for the genus. — *Bot. Mag.* 4175.

ACANTHACEÆ. — *Didynamia Angiospermia.*

Porphyrocoma lanceolata. For the possession of this truly charming stove plant, the Royal Botanic Gardens are indebted to Mr. Forkel, Gardener to His Majesty the King of the Belgians, at Brussels, who sent it under the above name, but unfortunately without any history. It produces singularly richly-coloured spikes of deep purple, from within the scales of which the scarcely less brightly coloured (but more inclined to blue) flowers appear.

It was exhibited in the Horticultural Society's rooms, and excited admiration from the beauty of the blossoms, which consist in the dark purple comb-like parts half covering the Lamium-like violet flowers. The leaves are large and drooping, of a lanceolate form, and dark green; the plant continues flowering during the spring and summer months. — *Bot. Mag.* 4176.

LOBELIACEÆ. — *Pentandria Monogynia.*

Siphocampylos coccineus. This is perhaps the most beautiful of the genus which has yet been introduced to our stoves. It was sent from the Organ Mountains, Brazil, by Mr. W. Lobb, one of the botanical collectors of Mr. Veitch, in whose nursery at Exeter it first showed its large and scarlet flowers, in June, 1845. It is treated as a stove plant, and, as cultivated by Mr. Veitch, is not sparing of blossoms. — *Bot. Mag.* 4178.

CACTACEÆ. — *Icosandria Monogynia.*

Echinocactus myriostigma. One of the most singular of the curious family of *Cactaceæ*, and still considered a rarity in collections; first described by Lemaire in 1839, but from very imperfect specimens, of which even the native country was not known, but which presented such remarkable characters, independent of flowers and fruit, that he ventured to constitute of it a genus, under the appropriate name of *Astrophytum.* The flowers, however, (for we are still ignorant of the fruit,) seem to present no characteristic marks to distinguish it from Echinocactus, and I venture to follow the Prince de Salm-Dyck in considering it to form a section of that extensive genus which he has called *Asteroidei.* We owe the possession of our specimen in the Royal Gardens to F. Staines, Esq., of San Luis Potosi, Mexico. The plant, eventually attaining a height of a foot, and probably more, is at first rotund, in age becoming more oblong, umbilicated at the top, the sides formed of five or six deep furrows, and as many broad projecting angles; the whole surface covered with white, scale-like dots, which, when carefully examined, are seen to be formed of matted and, as it were, interwoven hairs. The keel of the angles is not sharp, but flattened, as if cut off with a knife; and this is occupied by closely-placed transversely-oblong areolæ, filled with a floccose substance, but bearing no spines. In the umbilicus alone, whence the flowers appear, there are a few small brown rigid setæ rather than spines. The flowers are aggregated at the top of the plant, rather small, of a delicate straw-colour, sepals closely imbricated, oblong, tipped with a black point and a mucro; petals resembling them, but longer, arranged nearly in one series, linear, acute, but not mucronate nor sphacelate at the tip. — *Bot. Mag.* 4177.

ORCHIDACEÆ. — *Gynandria Monandria.*

Epidendrum radicans, syn. *E. rhizophorum.* This elegant species belongs to that section of Epidendrum named *Amphiglottium* distinguished by "the long leafy stem with distichous leaves, the want of every tendency to form pseudo-bulbs, a terminal peduncle covered with close sheaths, and a labellum entirely united to the column." Its name is obtained from the singular circumstance that the plant produces a root upon the stem opposite each leaf. The first plants were received in England in 1839 from Guatemala. Mr. Skinner says its habit is terrestrial, growing among long grass and dried leaves. It is a lovely plant, with dense heads of bright vermilion and yellow flowers. — *Pax. Mag. Bot.*

Bolbophyllum umbellatum. A pretty species, from Nepal. It has pale straw-coloured flowers, spotted with purple. Originally found in 1821. — *Bot. Reg.* 44—45.

ON PELARGONIUMS.

WITH AN ENGRAVING OF LYNE'S MARMION AND LYNE'S HESPERUS.

In the course of the past season we had an opportunity of introducing a continental friend to one of the metropolitan exhibitions, and the visibly portrayed expression of astonishment which pervaded his countenance when the beautiful scene first opened on his sight is still present to us. Indeed, it is questionable who received the most gratification; our friend, from the grand, and to him novel, display of floral treasures which surrounded him, or ourselves, from his reiterated exclamations of surprise and admiration. But the splendour of those magnificent Pelargoniums I shall never forget, he afterwards remarked; they were perfect! And so thought the greater number of those who saw them; all indeed, except the florist: his insatiable desire of novelty and improvement leads him continually to seek the one or the other, and sometimes, by chance, to hunt for faults where it is hardly possible to believe they exist; be that as it may, we cannot conceive a reason sufficiently good to account for the exclusion of several existing strains of colour on the Pelargonium from the florist's stock: why the white, lilac, and plum-coloured varieties should not be thought worthy of attention, we are at a loss to imagine. That they would as readily yield to the same care, and improve in shape to the same extent, as the crimson and rose-coloured varieties have done, there can be no doubt; nor can there be any hesitation about the additional attraction a collection would present with so many more colours in it. The Royal Botanic Society have already done much towards giving a direction and impetus to the production of a new strain of these flowers, by offering prizes for kinds possessing the form and character of the usual fancy varieties and the colour of the common scarlet, — a most desirable change certainly, and one that is sure to entail some richly-coloured flowers; and we should be glad to see the matter carried still farther, so as to entirely break up the present monotonous character of the family, which must be admitted, even by the most ardent admirer, to be the great drawback to their otherwise "perfect" beauty, and a probable reason for their yet comparatively limited cultivation.

Varieties of the colours we have mentioned are easily procured, and a commencement might be made even in the present season, by obtaining seed from any or all of them, for they are late flowerers; and being generally allowed to bloom as they will, there would be little trouble in finding plants in a fitting condition. The seed, we think, will be more likely to produce the desired result, if kept clear of all cross impregnation, as it is the colours of existing kinds that is wanted, combined with some better forms; the latter point must be a work of time, and will be gained in the usual way, by selecting the best among the seedlings when they flower. We repeat our opinion, that it is likely the colours will be preserved with greater purity by this mode, than if a cross of other colours be made, and for this reason should prefer it, even though the mixing promise a more speedy improvement in shape: still in another season it may not be amiss to try some cross-breeds between the best formed flowers and others of the desired colours; every advance, or even alteration, in the direction pointed out, ought to be regarded with eyes of favour, until it will become necessary to apply the rigorous test to which the prevailing strain are now subject.

It is not likely, however, that those who have passed years in the untiring pursuit of fine flowers according to the present taste will give them up to begin *de novo* upon another colour. This would require too great a stretch of patience and philanthropy for even a florist; and we do not expect it of them. Let those who have the means continue to produce as they are now doing; but for the beginner, whose chance of competing with the more established raiser is so remote, this suggestion holds forth the most flattering hopes. He may thus strike out for himself an entirely new line of operations, in which all will start equally, and it is of him we must expect whatever may result.

Our illustrations this month are two seedlings of, we believe, 1845, raised by Mr. Lyne. No. 1. Marmion, is a flower of excellent properties, the dark crimson feathered upper petals, softening to a much paler margin, contrast prettily with the white centre and rosy under petals. No. 2. Hesperus, has also dark maroon upper petals, terminating in a crimson margin, relieved by the thick rosy lilac under petals. The stock of them is in the possession of Mr. W. E. Rendle, nurseryman, &c. of Plymouth. Ed.

FLORAL INTELLIGENCE.

Horticultural Society of London.

Saturday, June 21st, was the day of the second exhibition of this Society, when a most brilliant gathering occurred. The large gold medal was awarded to Mr. Barnes, for the best collection of forty stove and greenhouse plants, which were considered by all to be the most remarkable group of well-grown plants ever brought together. Several among them were truly magnificent, particularly the Clerodendrons; one plant of C. paniculatum was a wonder, the spike of flowers measuring three feet in height, and rather more in circumference at the base; the plant itself must have been fifteen or twenty feet round. C. Kæmpferi, C. squamatum, C. splendens, and C. fallax, were all present in admirable order, as also excellent plants of the following;—Polygala oppositifolia, Ixora rosea, Boronia denticulata, Pimelea decussata, Stephanotus floribundus, Rondeletia speciosa, Phœnocoma prolifera, Erica elegans, E. odora rosea, E. dilecta, E. Thunbergiæ, E. Plunkettii, E. ventricosa, and E. tricolor in several varieties, Leschenaultia formosa, and Epacris grandiflora, &c.

The second collection of a like number was sent by Mr. Robertson. In the collections of twenty species Mr. Frazer obtained the first with a very neat group containing Boronia serrulata, Aphelexis humilis, and A. speciosa, Gompholobium splendens, Coleonema tenuifolium, Burchellia capensis, Gloxinia Youngii, Polygala acuminata, Pimelea hispida and decussata, several Ericas, &c. Mr. Ayres had the second twenty.

There were several collections of twelve plants. The best was from Mr. Bruce, who had Adenandra fragrans, Ixora grandiflora, Boronia serrulata, Eutaxia pungens, Aphelexis humilis and sesamoides, Euphorbia splendens, and some good Heaths. The second group was from Mr. Green; and the others from Mr. Jack, gardener to R. G. Loraine, Esq., and Mr. Slowe, gardener to W. R. Baker, Esq.

The collections of six held some excellent specimens, particularly those sent by Mr. May. They were Rondeletia speciosa, Ixora grandiflora, Aphelexis purpurea, Sprengelia incana, Leschenaultia formosa, and Erica ventricosa superba. The second collection was forwarded by Mr. Falconer, and others by Mr. Epps, Mr. Stanley, Mr. Cole, Mr. Glendinning, and Mr. Taylor.

The first prize for twenty Heaths was awarded to Mr. Robertson: among them were perfect bushes of E. radiata, ventricosa carnea, Cavendishii, depressa, ovata grandiflora, perspicua nana, tricolor, &c.

In the Nurserymen's class for the same number, the best collection was sent by Messrs. Fairbairn; in it were fine plants of jasminiflora alba, Halicacaba, tricolor, Savilleana, ventricosa breviflora, &c., the beauty of the whole materially increased by the presence of that extraordinarily fine specimen of Cavendishii of which they are the fortunate possessors. A third collection of twenty was shown by Messrs. Rollison.

Groups of twelve Heaths were present from Mr. Green, Mr. Barnes, and Mr. Taylor. Mr. Green's collection had propendens, ventricosa alba, Cavendishii, Beaumontia, tricolor, &c.

Collections of twelve were also shown by Messrs. Veitch and Mr. Frazer in the Nurserymen's class. The former group contained, among others, Cavendishii, tricolor, metulæflora, Alberti rosea, Halicacaba, densa, &c.

Collections of six were sent by Mr. May, Mr. Bruce, Mr. Jack, Mr. Dawson, Mr. Epps, and Mr. Glendinning. Mr. May also contributed a splendid plant of Massonii, which received the first prize for superior cultivation, and Mr. Dawson's pulverulenta, a singular pyramidal plant, the second.

The large gold medal was awarded to Mr. Mylam for the best collection of twenty species of Orchideæ. These plants were truly magnificent; the most beautiful among them were Stanhopea tigrina with fourteen flowers, Saccolabium guttatum with nine spikes, Aerides odoratum major, bearing twenty-four spikes, Paphinia cristata, Oncidium leucochilum and pulvinatum, Odontoglossum grande, Brassia Wrayæ and Lanceana. A second collection was sent by Mr. Robertson, and a third by Messrs. Rollison.

A group of twelve was exhibited by Mr. Don, containing, among others, Sobralia macrantha, Stanhopea quadricornis, Cattleya superba, Anguloa sp., Scomburgkia tibicinis, Barkeria spectabilis, &c. Mr. Eyles exhibited the best six; among them were both varieties of Vanda Roxburghii, Oncidium pictum, and Brassia Lanceana. Messrs. Veitch sent the second six.

Of single specimens Mr. Barnes sent Aerides odoratum and Cypripedium spectabile, and Mr. Eyles produced two new Aerides, one allied to A. crispum and the other with rich violet-purple flowers, approaching to A. affine.

Tall Cacti were produced by Mr. Green, Mr. Falconer, and Mr. Robertson. Mr. Green had densely-bloomed plants of Epiphyllum Jenkinsonii multiflorum, E. speciosum, E. coccineum majus, Cereus concolor, C. speciosissimus, flagelliformis, &c.

A collection of six Achimenes were sent by Mr. Jack, and six beautiful species of Cape Pelargoniums by Mr. Stanley. Single specimens were both numerous and fine: among those of new or rare kinds the most remarkable was Gardenia Stanleyana, from Mr. Glendinning. G. Rothmannii, another rare species, very fragrant, was forwarded by Messrs. Veitch, who had also a new Hoya with lemon-coloured flowers, called H. trinervis. Mr. Elliott, gardener to J. B. Boothby, Esq. sent a beautiful succulent plant, with flesh-coloured flowers, called Plumieria acuminata: Dipladenia crassinoda was present from Mr. Jack and Mr. Robertson. Messrs. Rollison sent Pitcairnia punicea, and Messrs. Veitch Morina longiflora. Specimens of superior cultivation were produced; the first by Mr. May, an immense plant of Erica vestita coccinea; Aphelexis humilis, from Mr. Bruce; Pimelea decussata, Mr. Hill; Cyrtoceras reflexum, J. B. Creswell, Esq.; Achimenes multiflorum, Mr. Ayres; Chorozema ovata and Lisianthus Russellianus, Mr. Green; Lilium testaceum, Messrs. Mountjoy; Thysanotus sp., Mr. Stanley; Blandfordia grandiflora and Clerodendron squamatum, from Mr. Barnes, and several others.

The Roses in pots were not quite equal to former exhibitions. The best collection was from Messrs. Lane, who had Hybrid China, Duke of Devonshire, Bride of Abydos, Bourbon Psyche, Tea Antinöus, Mirabilis, Abbe de Lamballe, General Vallee, Marie Augustine Hersente, Silene, Princesse Marie, &c. The other collections were from Messrs. Paul, Mr. Laing, and Mr. Dobson. The cut roses were fine, and too numerous to mention.

The Pelargoniums formed an important feature in the exhibition. In the first class for new flowers there was a fine display; and those from Mr. Dobson were very good. This collection, composed of seedlings of 1844, contained the following: — Mustee, Desdemona, Arabella, Rosy Circle, Aurora, Zenobia, Isabella, Marc Antony, Favorite, Hero, Bellona, and Sunset. The second collection was produced by Mr. Cock; it comprised Duke of Cornwall, Hector, Cora, Magog, Cyrus superb, Queen Phillippa, Emma, Pulchellum, Eliza Sauvage, Shepherdess, Vixen, and Sarah. The third collection was from Mr. Staines, and contained Sir W. Scott, Staines's Cedric, Adonis, Merry Monarch and Andromache, Witch, Sunrise, Fair Maid of Seyton, Sir R. Peel, Duke of Wellington, Emperor Nicholas, and Superbum. The only nurseryman who exhibited in this class was Mr. Gaines; he had Rose of Arragon, Prince of Wales, Princess Alice, Ackbar, Princes, Don Juan, Fire King, Lord J. Russell, Surrey White, Pirate, Oberon, and Mogul. In the amateur's class for old varieties the prizes were taken, first by Mr. Staines, second by Mr. Dobson, and the third by Mr. Cock, Mr. Gaines taking the first prize in the nurserymen's class. In the class for Pelargoniums in six varieties the prizes were awarded to Mr. Bromley and Mr. Gaines.

Calceolarias were not numerous. The first prize was awarded to Mr. Stanley for British Queen, Fortune Teller, King of Surrey, Othello, Emperor of Russia, and Othello. Mr. Gaines received the first prize among nurserymen.

Pinks were shown by Mr. Wilmer and Mr. Henbrey; the latter collection contained Henbrey's Beauty, Sir R. Peel, Neville's Earl Stanhope, Mellona, Wilson's Jack, Diamond, Gem, Prince Albert, Coronation, Marshall's Defiance, and thirteen Seedlings.

Ranunculuses were shown by Mr. Betteridge, of Abingdon, and Mr. T. Starr, Airzee. Mr. Tyso was the only florist who exhibited; his stand contained Tippoo Saib, Victor, Vendome, Innocent, Glenelg, Edgar, Dilectus, Champion, Cathcart, Attractor, Arbitrator, Alexis, Queen Victoria, Princess Royal, Philocles, Passe Cour de France, Niobe, Mirabile, Glacia, Burns, Financier, Belle Agreeable, and Apollo: besides these he had a fine collection of one hundred varieties.

Seedlings were not so numerous as on former occasions. Among Pelargoniums the first prize was awarded to Mr. Beck, for Aurora, a seedling 1844, upper petals dark, light centre, and under petals rosy-crimson; second, to the same for Desdemona, a profuse bloomer, and new in character, upper petals bright maroon, with a narrow edging of pale pink, centre and under petals pale rose. Mr. M'Conack received a certificate for Gulnare, upper petals dark, white centre, and rosy under petals. Certificates were also given to Mr. Beck for Sunset, Juno, and Mustee, three desirable flowers. Of seedlings of 1845 two were selected, Competitor and Rosetta, also from Mr. Beck. Among Calceolarias Mr. Gaines's Compacta, and The Pet from Mr. Standish, received certificates. Others were given to Mr. Pearson, of Hampstead, for a white Verbena, named Avalanche; and to Mr. Henbrey, for a seedling pink, named Beauty.

The last exhibition for the season of the Horticultural Society took place on the 12th of July, and a very excellent display for the advanced period of the season was brought together.

In the class of 40 Stove and Greenhouse Plants, Mr. Barnes, gardener to G. W. Norman, Esq., of Bromley, again obtained the Large Gold Medal, with a collection evincing the highest cultivation; his Clerodendrons certainly surpassed any thing of the kind ever produced before. There were six specimens present in the most beautiful condition, besides splendid plants of Rondeletia speciosa, Epiphyllum splendens, Crowea saligna, Polygala grandiflora, Pentas carnea, Aphelexis humilis, Phœnocoma prolifera, Leschenaultia biloba and formosa, Erica ampullacea, E. jasminiflora alba, E. Plunkettii, and several others.

Mr. Robertson, gardener to Mrs. Lawrence, Ealing Park, obtained the second prize in the same class. The Gold Knightian Medal was given to Mr. Frazer, nurseryman, Lea Bridge Road, for a collection of 20 particularly neat and well-grown plants, containing Roellia ciliata, Tristania nerifolia, Gompholobium splendens, Burtonia conferta, Clerodendron fallax, Kalosanthes grandiflora miniata, a beautiful plant, together with several Heaths. The second prize for a like number of excellent plants was taken by Mr. Ayres, gardener to J. Cook, Esq., of Blackheath.

There were fine collections of 12 plants. Mr. Hunt, gardener to Miss Trail, of Bromley, was placed first; in his group were fine specimens of Gardoquia Hookerii, Ixora coccinea, Boronia serrulata, Russellia juncea, Erica Massonii, &c. The other collections were from Mr. Bruce, gardener to B. Miller, Esq., Tooting; Mr. Green, gardener to Sir E. Antrobus, Bart., Cheam; Mr. Epps, of the Bower Nursery, Maidstone; Mr. Steadman of Isleworth; and were respectively placed as we have named them.

Two collections of 6 were present from Mr. May, gardener to E. Goodheart, Beckenham; and Mr. Stanley, gardener to H. Berens, Esq., Sidcup.

A group of Stove and Greenhouse Climbers were exhibited by Mr. Frazer; they were Ipomæa tyrianthina, Allamanda cathartica, Clerodendron splendens, Sollya linearis, Manettia glabra, and Stephanotus floribundus.

Single specimens of superior cultivation were present in great variety. Silver gilt medals were given to Mr. Falconer, gardener to A. Palmer, Esq., Cheam, for Renanthera coccinea, having two panicles of expanded flowers, and a third in a younger state; and to Messrs. Veitch of Exeter, for Aerides odorata. Large silver medals were given to Mr. Kinghorn, gardener to A. Murray, Esq., Twickenham, for Veronica speciosa; to Mr. May, for Erica radiata; to Mr. Frazer, for Kalosanthes grandiflora miniata, a magnificent plant, about 3 feet high, bearing about 160 heads of flowers; to Mr. Dawson, of Brixton, for Erica ampullacea; and to Messrs. Rollison, Tooting, for Erica inflata alba. Silver Knightian medals were obtained by Mr. Stanley, for a large plant of Leschenaultia formosa; by Mr. Green, for Lisianthus Russellianus; and by Mr. Dobson, gardener to G. Beck, Esq., Isleworth, for Achimenes picta. Certificates were given to Mr. Ayres, for a seedling Clerodendron; and to Mr. Barnes, for C. paniculatum. There were present several new ornamental plants. Messrs. Veitch received the silver-gilt medal for their Fuchsia serratifolia; the large silver for Siphocampylos coccineus; the Silver Knightian for Calendrinia umbellata; and the Silver Banksian for Atropa sp. from Chili, a small suffruticose spreading plant, with long tubular axillary pale yellow flowers. A certificate was given to Mr. Glendinning, of the Chiswick Nursery, for a yellow and white flowering herbaceous Statice, called bicolor. Besides these there was a plant of Alona cœlestis, from Messrs. J. and J. Best, of Reading Nursery, and Erica Halfordiana from Messrs. Rollison, a variety with large ampullacea-like flowers, and somewhat of the habit of retorta.

The Orchidaceæ were numerous, and, as usual, very beautiful; the principal prize was again taken by Mr. Mylam, gardener to S. Rucker, Esq., Wandsworth, with a splendid collection containing Anguloa uniflora, Miltonia spectabilis, Odontoglossum grande, Paphinia cristata, Galeandra Bauerii, Saccolabium guttatum rubrum, several Cirrhæas and Oncidiums, Promenæa stapelioides, and, perhaps, the finest specimen of Phalænopsis amabilis that has yet been seen.

Mr. Robertson took the second prize with a very good collection, holding, among others, fine specimens of Angræcum caudatum, Mormodes aromaticum, Brassia Wrayæ, Oncidium Lanceanum, Stanhopea oculata, Aerides quinquevulnera, Catasetum Russellianum, &c.

Messrs. Rollison obtained the Gold Banksian for the third collection. Mr. Don, gardener to F. G. Cox, Esq., Stockwell, was the only exhibitor in the class for 12 species. His collection held Schomburgkia tibicinis, Catasetum Russellianum, Aerides quinquevulnera, Stanhopea saccata, S. insignis, Acropera Loddigesii, &c. There were three collections of 6. The Gold Banksian Medal was given to Mr. Carson, gardener to F. G. Farmer, Esq., Cheam, for Miltonia spectabilis, Dendrobium chrysanthum, Cattleya Mossiæ, C. Harrisoniæ, Oncidium Lanceanum, and Epidendrum fragrans. The Silver Gilt was obtained by Mr. Eyles, gardener to Sir G. Larpent, Roehampton, with Calanthe plantaginea, Acincta Barkerii, Aerides affine, Acropera Loddigesii, and Oncidium Lanceanum. The Large Silver was taken by Mr. Plant with Saccolabium guttatum, Brassia Lanceana, Vanda cristata, Cycnoches Loddigesii, and Cirrhæa fusco-lutea.

In the amateurs' class, for 20 Cape Heaths, Mr. Hunt obtained the first prize with an excellent collection, containing large plants of E. Massonii, E. eximia, E. mutabilis, E. odora rosea, E. obbata, E. tricolor elegans, E. jubata, E. metulæflora bicolor, &c. The silver-gilt was given to Mr. Robertson for a collection of smaller but very neat plants. In the nurserymen's class, Messrs. Fairbairn obtained the first prize with a superb collection, containing Cavendishiana jasminiflora alba, ampullacea rubra, eximia, gemmifera, Irbyana, ampullacea, &c.

Messrs. Rollison received the second prize in the same class. In that for 12 plants (amateurs), the Gold Banksian was awarded to Mr. Green for large plants of tricolor, metulæflora bicolor, ampullacea, jasminiflora alba, and some smaller ones. The second prize in this class was taken by Mr. Barnes. In the nurserymen's division the Gold Banksian was given to Mr. Frazer, the only exhibitor. The collections of six species were more numerous: the best were exhibited by Mr. May, who had E. jubata, Savilleana, princeps tricolor, &c.: the second was from Mr. Bruce; others were shown by Mr. Plumley and Mr. Ayres. Among nurserymen the competitors were Mr. Dawson, Messrs. Henderson, Mr. Epps, and Mr. Glendinning. In the class for single specimens there were some fine plants: the best was an E. Parmenteriana, 3 feet high and 4 feet across, from Mr. May. Mr. Curson sent a fine E. ampullacea, which received the Silver Knightian; and the Silver Banksian was given to Mr. Plumley for E. viridiflora. In the nurserymen's class Mr. Dawson obtained the first prize for E. Massonii, 2 feet high, and 3 feet across; Messrs. Fairbairn the second for E. ampullacea, about the same size; and Messrs. Henderson the third for E. ventricosa grandiflora.

The Pelargoniums were still good, though smaller than at the last show. In the amateurs' class, for 12 new varieties in 8-inch pots, the first prize was awarded to Mr. Dobson for Pompey, Rajah, Sultana, Isabella, Margaret, Amazon, Sunset, Repealer, Mark Antony, Desdemona, Effect, and Titus. Mr. W. Cock obtained the second with Conflagration, Egyptian Queen, Sunrise, Mary, Repeal, Achilles, Milo, Jessica, Duke of Cornwall, Katinka, Hector, and Rosette. The third prize was taken by Mr. Staines, New Road, who had Clio, La Polka, Andromache, Emperor, Akbar, Nestor, Sunrise, Nova elegans, Duke of Cornwall, Merry Monarch, Black Dwarf, and Queen of Fairies. For 12 old varieties in the nurserymen's class, Mr. Gaines obtained the first prize, and Mr. Ambrose the second. In the amateurs' division of this class, the best was shown by Mr. Cock, and the second by Mr. Staines. Only one collection of 6 was shown by Mr. Cock.

Mr. Conway of Brompton obtained the Silver Knightian for a collection of 6 scarlet Pelargoniums: these were, Prince Albert, Compactum, Tom Thumb, Shrubland, and Shrubland Superb, and Mrs. Mayler.

In the amateurs' class, for 12 roses in pots, the Gold Banksian Medal was awarded to Mr. Stowe, gardener to W. R. Baker, of Bayfordbury, for a collection containing many very nicely-bloomed plants. Mr. Dobson received the second prize. Messrs. Lane exhibited the best collection in the nurserymen's class of 25 plants: in it were good plants of Devoniensis, Charles Duval, Coupe de Hebe (tea-scented), Guillaume Tell, Comte de Paris, General Allard and Gallica (hybrid perpetuals), and the White Bath Moss. The second prize was taken by Mr. Steadman. Single specimens were produced by Mr. Slowe and Mr. Dobson; the former receiving a Silver Knightian for Gardenia, a China variety; and the latter, a Silver Banksian for the Bourbon Queen. Collections of 12 Fuchsias were shown by Mr. Gaines, Mr. Robinson, and Mr. Steadman. Mr. Gaines had also a collection of 6 Calceolarias.

Of Cut Roses there was a good display. The principal exhibitors among amateurs were Mr. Terry, Mr. Parsons, Mr. Betteridge, and Mr. Williams; and among nurserymen, Messrs. Lane, Mr. Rivers, Mr. Francis, Mr. Hooker, and Messrs. Cobbett. Our limits quite preclude the possibility of naming their productions.

A good stand of Carnations was produced by Mr. Norman of Woolwich: among them were blooms of John's Ringleader, Cartwright's Lord of the Manor, Martin's Prince Albert, Wilmer's Solander, Puxley's Prince Albert, Wiggs' Earl of Leicester, Ely's Mungo (a good seedling, marked No. 8.), and several other standard flowers. Mr. Edmonds, Wandsworth Road, received the large silver medal for a stand of picotees, containing Brinklow's New Purple, Dickson's Red, Crask's Prince Albert, Sharp's Agitator, Halliday's Henrietta, Barnard's Bride, Wilmer's Prince Albert, Wildman's Isabella, and several others. The second prize was taken by Mr. J. Newhall of Woolwich. In the dealers' class Messrs. Norman received the first prize, and also for pinks, with a stand, containing, among others, Weedon's Queen Victoria, Kritland's Gay Lad, White's Warden, Church's Rowena, Garrett's Queen of Roses, Hardstone's Prince Albert, Norman's Henry Creed, Kritland's Dr. Dauberry, Creed's President, &c. Mr. Henbrey, of Croydon, received the second prize for a similar collection.

The following seedlings received prizes:—Pelargonium paragon, a certificate from Mr. Whomes, already described in the report of the Botanic Society's last show; Calceolarias. Certificates were given to Messrs. Best of Reading for Leopardii, cream-colour, rosy spots; and to Mr. Gaines for Alpha, a yellow ground, with large blotches.

A great many others were present, but did not receive prizes; among them we noticed a promising pelargonium from Mr. Kinghorn, called Mary Queen of Scots; a verbena from Mr. Cutbush of Barnet, called Crimson Superb; an epiphyllum, with bright red flowers, from Mr. Green, named Greenii; a pink from Mr. Henbrey, called Standard; and one from Mr. Norman, the Great Britain: an Antirrhinum from Mr. Wentworth of Harlow, a cream-coloured variety, striped with red and purple; and a Gloxinia from Mr. Stanley, a large white, with bright blue throat.

Under the head of miscellaneous subjects, certificates were awarded to Mr. Carson for Rondeletia speciosa, with about 30 heads of flowers; to Mr. Conway for 6 Petunias—Membranacea, Sanspareil, Beauté Parfait, Portrait, Ivery's Pet, and Louis Gullind; and to Mr. Burns of Chevening for a pan of the Persian yellow Rose.

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Royal South London Floricultural Society.

The third meeting for the season of this Society occurred on the 25th of June, at the Surrey Zoological Gardens. This is what is usually called the Pink show, being the season for that flower, and a very fair assemblage of them was present. The first prize in the amateurs' class was taken by Mr. Blest, of Walworth, with a nice stand of the following sorts: Holmes' Coronation, Bunkell's Queen, Hodges' 166, Lady Flora Hastings, Church's Navigator, Hardstone's Prince Albert, Legg's Prince Albert, Hodges' Melona, Wilmer's Prince of Wales, Cousins' Little Wonder, Bunkell's Lord Brougham, Hodges' Gem, and Norman's Defiance. J. Edwards, Esq., of Holloway, obtained the second prize, with Wilmer's Prince of Wales, Hardstone's Prince Albert, Church's Navigator, Bunkell's Lord Brougham, Bunkell's Queen, Cousins' Little Wonder, Legg's Prince Albert, Hodge's Melona, Hardstone's Beauty of Cray, Henbrey's Diamond, Garratt's Prince Albert, and Holmes' Coronation. The third prize was taken by Mr. Proctor, of Bermondsey, with Hodges' Melona, Holmes' Coronation, Hodges' Gem, Unknown, Harrison's Prince Albert, Neville's John Dickson, Bunkell's Prince Albert, Legg's Prince Albert, Henbrey's Diamond, Bunkell's Queen, Church's Navigator, and Barratt's Conqueror.

In the nurserymen's class the first prize was taken by Mr. Norman, of Woolwich, with a stand of 24, containing Church's Wonder, Stow's Elizabeth, Hodges' 166, Cousins' Little Wonder, Wilson's Dame Trot, Omega, Miss Jean, Cole's Majestic, Wilmer's Queen, Hardstone's Beauty of Cray, Ibbett's Queen Victoria, Hodges' Gem, Bunkell's Queen, Lady Flora Hastings, Wallis's Unique, Jones's Huntsman, Neville's John Dickson, Wilmer's Prince of Wales, Church's Navigator, Cousin's Queen of the Isles, Fairbairn's Bob Lawrence, Creed's President, Aker's Lord Brougham, and White's Warden. The second prize was taken by Mr. Henbrey, of Croydon, and the third by Mr. Ottey, of Peckham.

The first prize for 12 Ranunculuses (amateurs' class) was awarded to Mr. R. Smith, of Poplar, for Sir J. Graham, Topaz, Seedling, Phenomenon, Naxara, Queen Victoria, Orange Boven, Talisman, Philocles, and three seedlings. The second prize was obtained by Mr. Trevers, of Walworth, with Dr. Gardner, Pliny, Scottish Hero, Constantia, Belzoni, Seedling, Dolland, Luton, Rob Roy, Milo, Marshal Soult, and Industry. The third prize was taken by Mr. Harms, Farringdon Street. Messrs. Tyso were the only exhibitors in the nurserymen's class; their collection of 24 contained Princess Royal, Wilson's Self, Niobe, Adolphus, Nestor, Belle Agreeable, Mirabile, Sabina, Flavissimus, Nonsuch, Marquis of Hertford, Oressus, Philocles, Kilgour's Queen Victoria, Gippins, Delectus, Glenelg, Cathcart, Alexis, Attractor, Flaminius, Vendome, and Heidas.

Two collections of Pelargoniums were produced; the one from Mr. Foster, gardener to R. Staines, Esq., was in excellent condition; it contained Superbum, Sunrise, Erectum, Duke of Cornwall, Enchantress, Staines's Duke of Wellington, Achilles, and Hebe. The second was from Mr. Pamplin, nurseryman, whose plants were Lord Byron, Superb, Achilles, Assassin, Maria, Prince of Wales, Sir T. Newton, Sir W. Scott, Alice Gray, Lord Nelson, Aurora, and Maid of Sarragosa.

The extra prize offered by W. Davis, Esq., for the best collection of Fuchsias, was awarded to Mr. Robinson, Pimlico, for good plants of Prima Donna, Eppsii, Louryi, Goldfinch, Gem, Magnet, Exoniensis, Pawley's Queen Victoria, Formosa elegans, Coronet, Modesta, and Chauverii; and a second prize was given to Mr. Ottey for twelve other nice plants.

The Miscellaneous Plants were decidedly inferior on the whole, though a few good specimens were present. This we believe to be mainly attributable to the withdrawal of the prizes hitherto offered for collections of 12, to the exclusion of several amateurs' collections who used to contribute many good plants. The gold medal was awarded to Mr. Young, gardener to C. Barrow, Esq., for a collection of 18; among them were fair specimens of Leschenaultia formosa, Siphocampylos betulæfolius, Sollya linearis, Erica ventricosa, tricolor, and some others. Mr. Hamp received the second prize for a similar collection, containing, among others, Achimenes longiflora, A. grandiflora, Gloxinia digitaliflora, Cactus Jenkinsonii, Erica Shannonii, &c. In the nurserymen's class Mr. Pamplin obtained the first prize with a collection in which were a great many heaths, a good Pimelea decussata, and a neat plant of the lovely Prostanthera violacea; the second and third prizes in this class were taken by Mr. Jennings and Mr. Bushel. The large Victoria medal was awarded to Mr. Bruce for four splendid plants of Aphelexis humilis, Erica ventricosa superba, Adenandra fragrans, and Boronia serrulata. Among single specimens, Mr. Bruce had another very fine Aphelexis humilis covered with bloom, and a good Ixora coccinea, and Mr. Pamplin produced a good Erica intermedia. Mr. Plant sent six Orchidaceous plants; they were Saccolabium guttatum, Aerides odoratum, Lycaste macrophylla, Calanthe veratrifolia, Oncidium pumilum, and Phaius grandifolius.

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ROYAL BOTANIC SOCIETY.

THIS Society's third and last exhibition for the season was held in their gardens, Inner Circle, Regent's Park, on Wednesday, July 2. Her Majesty and suite and the King of the Belgians visited the tents in the morning. The exhibition throughout presented its usual degree of novelty and extraordinary instances of superior cultivation. One remarkable incident connected with it is that of Messrs. Lucombe and Co., of Exeter, bringing Pelargoniums 200 miles, and winning prizes with them. Large collections of 30 stove and greenhouse plants were contributed by Mr. Barnes, gardener to G. W. Norman, Esq., and Mr. Ayres, gardener to J. Cook, Esq. Mr. Barnes's group contained many examples of first-rate cultivation. In Mr. Ayres's collection were Begonia coccinea, Achimenes multiflora, a small Ixora crocata, producing six large heads of bloom, and a pretty
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plant of Kalosanthes coccinea, together with a healthy, well-grown Torenia scabra. A collection of 15 stove and greenhouse plants were produced by Mr. Frazer, of Lea Bridge Road, and another by Mr. Pawley, of Bromley. The first prize was awarded to the former, which contained many well-managed plants, among which may be mentioned Kalosanthes grandiflora miniata, measuring about 2½ feet in height, and nearly the same in width, and covered with fine healthy foliage down to the pot; a fine Vinca alba, about 3 feet in height, and the same in width, profusely covered with blossoms. This group contained good plants of Manettia cordata, Stephanotis floribunda, Sollya linearis. Several collections of 10 stove and greenhouse plants were present, the best communicated by Mr. Hunt; another by Mr. May, who won the second prize. In Mr. Hunt's collection were a fine Clerodendron squamatum, Erica tricolor elegans, a fine Ixora coccinea, Boronia serrulata, well managed, and a fine Erica tricolor.

Of Cape Heaths there was a good display. The first prize for 15 was awarded to Mr. May, for well-grown plants of Savileana, radiata, densa, and several others showing equally good cultivation. Mr. Barnes and Mr. Green also showed in this class.

Among nurserymen, the first prize was awarded to Messrs. Fairbairn, for 12 plants, who contributed a variety of Jasminiflora, the curious-looking rather than beautiful viridiflora, and several others. Mr. Frazer and Mr. Dawson also showed in this class.

There were three groups of eight Heaths; the first, from Mr. Hunt, contained a fine metulæflora, odora rosea, in fine condition, and Massoni, in fine perfection. Mr. Bruce and Mr. Taylor also exhibited in this class, and six specimens were sent by Mr. Roser, gardener to J. T. Helling, Esq.

Of Seedlings, Mr. Pamplin was awarded second prizes for three varieties of ventricosa; they were named magnifica, rosy pink, v. grandiflora, larger, but not of such bright colours as the former, and v. splendens, producing slender flowers of a bright rose.

Of Orchids, a magnificent group was present from the garden of S. Rucker, Esq., jun.; there were Stanhopea tigrina, Saccolabium guttatum, in fine condition, Aerides odoratum, Oncidium leucochilum, Odontoglossum grande, Brassia Wrayæ and Lanceana, Cycnoches chlorochilon, with singular pale green flowers, Lycaste cruenta, very pretty, and the rare Mormodes luxatum.

A group of 12 small plants was contributed by Mr. Don, gardener to F. Cox, Esq., among which were Cirrhæa viridipurpurea, very curious, Anguloa sp. unnamed, Cattleya Harrisoniæ, Schomburgkia tibicinis, and Aerides odoratum. Two small collections were exhibited, one by Messrs. Henderson, and the other by Mr. Plant.

Of single specimens, there was a considerable number; we remarked a noble Erica Massoni, from Mr. Hunt, for which a first prize was awarded, a good E. obbata, from Mr. Pamplin, a fine Veronica speciosa, from Mr. Kinghorn, Mahernia incisa, 6 feet in height, from Mr. Bailey, and Clerodendron fallax, from Mr. Ayres. Of new plants not in bloom, Mr. Mylam, gardener to S. Rucker, Esq., jun., sent a magnificent plant of Nepenthes ampullacea, about 7 feet in height, and bearing numbers of large pitchers, which are beautifully streaked with brown; this was by far the most remarkable plant shown. Messrs. Henderson contributed Jacaranda Clauseniana. The display of Roses, both cut and in pots, was extremely beautiful; the first prize for 20 varieties of the latter was awarded to Messrs. Lane and Son, in whose collection were Le Pactole, General Allard, Charles Duval, Persian Yellow, Flora MacIvor, Barbet, and Duchess of Sutherland. Mr. Dobson, gardener to Mr. Beck, won the second prize in this class. A second prize was awarded to Mr. Dobson for 10; among these were White Bath Moss, French Crimson Moss, Felicite, and Bourbon Queen. Collections of cut Roses were numerous. For groups of 100 varieties, the first prize was awarded to Mr. Lane, and the second to Mr. Francis. For 50 sorts, Mr. Collison won the first prize, and Mr. Milne the second. For 25 varieties the competition was with Messrs. Paul, Lane, and Rivers, the prizes being awarded in the order in which the names are mentioned.

Among miscellaneous objects, Mr. Pamplin was awarded a prize for a collection of Gesneraceous plants containing Gloxinia Cartonii, Sinningia guttata, and several species of Achimenes. There were also groups of Ferns, Alpine plants, some dwarf Cacti, and several devices illustrative of the grouping of plants in flower-gardens. The numerous collections of Pelargoniums were generally well-bloomed, and in fine healthy condition. The first prize was awarded to Mr. J. Dobson, gardener to Mr. E. Beck, for Favourite, Belinda, Bellona, Rosy Circle, Margaret, Isabella, Marc Antony, Desdemona, Sultana, Zenobia, Sunset, and Lord J. Russell. Second prize was awarded to Mr. Cock. The same class among nurserymen was contested by Mr.Gaines, Messrs. Lucombe and Pince, and Mr. Henderson. The first prize Mr. Gaines received, for Camilla, Lady Sale, Witch, Hebe, Prince of Wales, Lady Caroline Douglas, Alba grandiflora, Rising Sun, Airamana, Trafalgar, Arabian, and Exoniensis. For 12 varieties in the amateurs' class, a first-class prize was awarded to Mr. Staines, Lisson Grove, for Superbum, Madeline, Hebe, Duke of Cornwall, Rowena, Enchantress, Sunbeam, Cedric, Achilles, Fair Maid of Leyton, Grand Turk, and Duke of Wellington. And in the nurserymen's class the same prize was awarded to Messrs. Lucombe and Pince, for Beck's Admiral, and Black Prince, Thurtell's Fairy Queen, Stella, Leonora, Dido, Zanzummim, Thurtell's Stromboli, Enchantress, and Cleopatra. For Fuchsias the first prize was awarded to Mr. Robinson, gardener to J. Simson, Esq., for Prima Donna, Vesta, Eppsii, Robinsonii, Gem, Lowryii, Chandlerii, Magnet, Formosa elegans, Exoniensis, Coronet, Barnes's Hope; and a similar prize was also awarded to Mr. Gaines.

A collection of Calceolarias, compactly grown, from Mr. Gaines was awarded a first prize; the sorts were Prince Alfred, Tigrina, Kinghornii, Flash, Lady Ann, Charteris, and Ada. The first prize for Verbenas was awarded to Mr. Smith, of Hornsey, for Lilac perfection, Vesta, Queen of England, Smith's Superba, Duchess of Sutherland, Beauty, Excelsa, Delicata, Beauty Supreme, Atropurpurea, and Defiance. Second prize to Mr. Turner, of Chevely.

There was an excellent display of Pinks, both in quantity and quality. The first prize was awarded to Mr. Turner, for the following 24 blooms: Weedon's Victoria, Omega, Eclipse, Rosanah, Tower, Warden, Napoleon, Turner's Masterpiece, Majestic, Alpha, Model, Enchantress, Miss Blackstone, Prince of Wales, Little Wonder, Wilmer's Victoria, Defiance, Duchess of Kent, Melone, Jilf's Mary Ann, Hardstone's Prince Albert, Turner's Beauty, President, and Gem. Second prize, Mr. Norman. Heartseases were exhibited; prizes were awarded first to Mr. Turner, second, Mr. W. C. Brown, third, Mr. Hart. The seedlings were numerous. In Pelargoniums a first prize was awarded to Mr. Whomes, gardener to C. Foster, Esq., of Clewer, for a variety named Paragon, rosy crimson under petals, with a narrow margin of the same colour around the top petals, which are of a deep maroon, the Prairie Bird, from Mr. Beck, a flower of good form and substance, somewhat resembling the Queen of the Fairies, but expanding well. In Calceolarias, first prize to Mr. Standish; his best seedlings were Matchless, Trumpeter, and Nico. Second prize to Mr. Gaines.

Seedling Verbenas, from Mr. Smith, of Hornsey, a certificate to one named the Duchess of Sutherland, a delicate pink flower with a small rose-coloured spot, a very pretty variety. Several good seedling Pinks were shown; those selected for rewards were Ward's Great Britain, a red, with rose leaf, good lacing, a large flower well filled in the crown, and Turner's Masterpiece, a delicate rose, lacing regular and unbroken, flower large and full. 12 specimens of Henderson's Queen Victoria, a light fancy Pelargonium, had a very pleasing effect, as also another of great beauty, resembling a rose-coloured Sweet-william, the name of which we did not obtain. Among the seedling Petunias, there was a good white named Alba Magna.

TO CORRESPONDENTS.

Hortus Amatus. — Add to your collection of stove plants the following, which may be considered first-rate: — Clerodendron Kæmpferi, C. infortunatum, C. squamatum, Ixora rosea and crocata, and Rondeletia speciosa.

Enquirer.—Loam is the staple earth for growing Cacti; rotten manure and leaf-mould should be added in proportions of about one half the quantity of loam used; plenty of fine sharp sand, and pieces of broken pots, are also essential.

T. S. — From what we can learn, glass is not likely to be cheaper, until an importation from the Continent brings down our manufacturers' prices.

Tyro. — Nothing can be easier than the management of exotic ferns: they require the usual temperature of a plant stove, plenty of water, and shade, during the summer, and to be repotted about once a year.

A box of Calceolaria blooms, from a correspondent at Ipswich, by some accident did not reach us till too late for last Number, and so withered that it was impossible to form an opinion of them. If not too late, we should like to see them again.

X. T. — There is a peculiar orange tint about the seedling Petunia No. 5. that renders it very desirable. Do your best to increase the stock of it: the others are too nearly like varieties already out.

Subscriber. — We expect, in the course of a couple of seasons, to find Calceolarias exhibited with stripes as clearly defined as those of the Carnation. Mr. Plant, of Cheadle, already advertises something of the kind; and we are aware of a few others in a collection at Southampton. The florist moves by strides now-a-days.

A Sub. from No. 1. — There is a sameness about your Antirrhinums that spoils their beauty; they approach too nearly quadricolor and its thousand varieties.

CALENDAR FOR SEPTEMBER.

There are comparatively few of our native flowering plants but have bloomed earlier in the season, but the time is approaching when cryptogamic forms of vegetation become numerous, and are highly deserving of observation. Of the many hundreds of these plants found in the British Isles, a very few are applied to use as articles of food, a few sea-weeds and mushrooms being, I believe, all so used in this country. Among Fungi, about four species of Agarics — the common or true mushroom, the horse-mushroom, and two sorts of champignons, — with the morel and truffle, are nearly all that are used in cookery among us. Occasionally a few other mushrooms may be collected and sold in the markets for making catsup, but this is more the result of accident than otherwise. Still it is important that no other mushrooms should be used either in a recent state or for boiling down, than those indicated above, as accidents occur almost every year, either from using poisonous species, or from inattention in cooking. This last operation should be particularly attended to, the mushrooms whether stewed or broiled being thoroughly done, and plenty of salt used with them. Heat almost entirely dissipates the poisonous properties of Fungi, and renders them less hurtful, although even then they are not esteemed very digestible. The use of mushrooms is general among all classes in the country during their natural season; the morel and truffle are seldom seen but at the tables of the affluent. The collection of the last does not appear to be carried to that extent in this country to which it might be; at any rate they appear tolerably plentiful in most situations in the south of England on the chalk, and no doubt, on other soils as well. Its underground habitat is not very favourable to the observation of its method of growth and propagation, but it is to be hoped we shall not remain long without sufficient knowledge to attempt its artificial culture with more success than has hitherto rewarded the few who have been sufficiently enterprising to try.

In the flower-garden little remains to be done but to keep it neat and clean, removing all plants as they fade, and leaving the beds in the neatest possible state for the winter, whether by filling them with evergreens, preparing them for spring bulbs, or whatever may be the course intended to be pursued in the ensuing spring. Geraniums, verbenas, and various other plants continue to look so gay while the weather is open, that it is to be hoped we shall soon see movable glass structures used to prolong their season to the utmost limits a fine September and October will admit in our climate. Propagation and potting up plants from the borders must be attended to until a sufficient stock is obtained or all room occupied. For an early display in the flower-garden in the spring, a good selection of annuals should be sown, or seedling plants selected from the borders and potted. These placed on a dry bottom in temporary frames or pits will pass the winter well, and materially assist the spring bulbs; also a few grown with a little extra care are very useful for the conservatory early in the season.

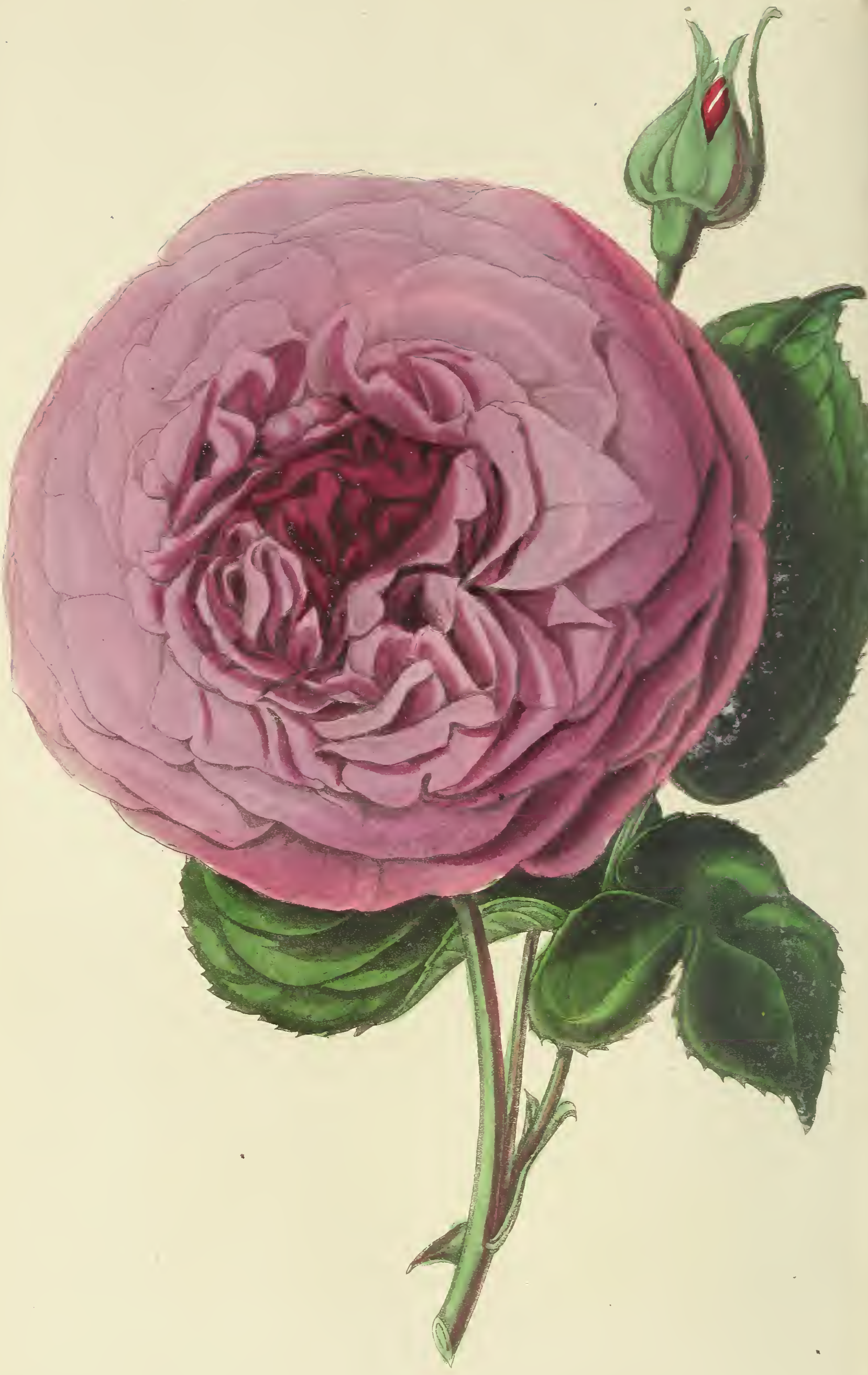
The greenhouse must now be prepared for the reception of the plants for the winter. All the air possible, and a careful and limited supply of water, should be rigidly attended to, so as to assist the plants as much as possible in ripening their wood.

Woody stove plants will probably require a little assistance from fire-heat for the same purpose, but it must be carefully applied, as well as water, as any excess in either will be highly detrimental. Even in the damp stove a diminution of moisture must now take place, and some rest gradually given to the vital energies of the various plants.

D. M.

Florist's Flowers.—It is in this month the Dahlia-grower reaps his reward: the blooms are now "coming good"; still attention must not lag; additional sticks, fresh ties, the old ones loosened, ear-wigs, thinning, shading, &c. are among the matters that require unremitting care; by the end of the month pot roots may be gradually dried preparatory to the winter. Cuttings of Pinks and Pansies that are well rooted should be planted out where they are to remain, though a portion of the best of the latter ought to be preserved in pots. Carnation and Picotee layers also may be potted as soon as they are fit. Tulip beds should be prepared, and the bulbs arranged at convenient leisure. Perhaps no better time than the present can be had to remove the tender kinds of Roses that may require protection through the winter.

P.



BEAUTY OF MUNDEN.

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THE

FLORIST'S JOURNAL.

OCTOBER, 1845.

THE ROSE.

WITH AN ILLUSTRATION.

OUR engraving this month represents a very beautiful seedling of the Bourbon class of Roses, obtained by Mr. Milne, gardener to C. S. Chauncey, Esq., of Dane End, Little Munden, Hertfordshire. The plant, we understand, is of vigorous habit and constitutionally robust: of its flowers it is unnecessary to speak; our figure will convey the best idea of their large size, unexceptionable form, and beautiful colour. It is called the "Beauty of Munden," and is, we think, destined to perpetuate the remembrance of Rose growing at that place. The blooms from which the accompanying portrait was taken were exhibited at the July meeting of the Royal Botanic Society, where they received the principal prize offered for similar productions. —ED.

ROSES IN POTS.

ABOUT the present time last year I began the culture of Pot Roses, and certainly, for the little expense and less trouble incurred by them, nothing could yield a more satisfactory return; in fact, so well pleased am I with the result, that an order has already issued for doubling the number; this being the case, it has occurred to me, that it can be only necessary to make their capabilities known to ensure for them very general estimation and adoption.

The plants selected for me were healthy three years old specimens, which had made from five to eight vigorous shoots in the preceding summer: they were lifted from the open ground, care being taken to preserve as many of the young fibrous roots as possible: most of them were growing on their own bottoms, as the nurserymen express it, that is, were not produced from buds inserted on another stock; and these I greatly prefer, because of the liability of the plants to protrude suckers from the base of the stems, a feature common to the whole family. These, from their more immediate vicinity to the roots, are sure to obtain the largest supply of nutriment; and this, when withdrawn from the system of the plant by an alien shoot, which has afterwards to be removed, is a direct robbery of the legitimate branches: if, however, the sucker is of the same kind as the head, it, of course, can be regulated so as to contribute towards the general improvement of the plant, and is then rather an advantage than a loss.

The soil used for potting was chiefly rich turfy loam, enriched with rotten manure from an old melon bed, and the mass made porous with a considerable quantity of road grit — the proportions were about three of loam, two of manure, and one of sand; the pots were rather larger than what would have been necessary to contain the roots without cramping, and after the potting was performed, the strongest of the shoots was shortened back five or six joints, and the plants plunged for the winter to the rims of the pots in coal ashes, with only an occasional protection from the severe frosts of spring by means of mats thrown over them. This was fully sufficient for the kinds chosen, as they were chiefly Perpetuals and their hybrids, with a few Gallicas: of course, for the tender varieties of the China and Bourbon tribes, a pit or frame would be quite indispensable.

The pruning was done between the beginning and middle of March, a short time before the buds begin to burst into leaf, when the number and strength of the flower-bearing shoots for the ensuing season can be ascertained with the greatest exactitude. From the time the flower buds make their appearance until their expansion, is the only time that Roses, in pots, can be said to require attention; but then it *must* be given them;

water is required nearly every day, varied about twice a week with liquid manure; and it is equally necessary that they be gone over at the same time and examined carefully, in order to prevent the ravages of the grubs, which secret themselves in the young leaves and buds, and, if not removed speedily, destroy the whole crop of flowers; nor is there any effective remedy for this besides picking them off by hand, which must be continued, without omission, while there is a bud upon the plants.

The beauty of the blooming period will be greatly heightened and prolonged if the entire collection can be removed to a greenhouse, or some similar protecting medium, and as it occurs at the most pleasant part of the year, the regular inhabitants of these structures may be taken out to afford room for their summer rivals. It will be decidedly advantageous both to the health of the plants and their general appearance, if they can be accommodated with this station, a fortnight or three weeks before they bloom, as the leaves are then protected from injury occasioned by fluctuations of the weather, and an additional vigour imparted to the blooms, while an air of high cultivation will pervade the whole. It is then, indeed, that Roses are seen in perfection: to attempt a description of them in this state would be idle, they must be seen for their beauty to be duly and properly appreciated.

Immediately after the flowering was over, my plants were removed from the greenhouse to a sheltered situation by the side of a north wall, and being regularly supplied with water, have made most luxuriant growth, sufficiently so to make a fine display next year nearly a matter of certainty; they will remain where they are now placed until the return of frosty weather, when the plunging must be repeated, and the same routine of management renewed. By allowing them to bloom at the natural season, and removing them directly it is over, they do not interfere with the culture of any other class except Geraniums, for my Cinerarias and Calceolarias were done before the Roses required their space, and immediately after them the house was filled with Carnations, followed by Fuchsias, &c.; thus the erection has been a continued mass of bloom, with also a continued change, and much admiration has been expressed on viewing the several collections, but more especially with reference to the Roses.

F. St. Aulier.

[The latter part of our correspondent's excellent communication deserves particular notice. He appears to have adopted the only true course to continue the proper interest in his greenhouse. These erections should always contain something to awaken attention and claim the admiration of visitors, but more especially through the summer months; and with the addition of a small pit or two, and a judiciously selected stock of plants, like those mentioned in the foregoing paper, it may be ensured. The reason that it is not more generally the case than at present may be traced to the latter consideration: an heterogeneous collection is made, without regard to anything further than filling the house; and from the circumstance of the plants brought together being natives of various latitudes, and therefore producing their flowers at so many various seasons, the rich display so much to be desired is entirely lost. We think that a selection of four or five genera, made with a view to this consecutive developement, would afford a much greater amount of satisfaction than a miscellaneous collection can, with even superior management. The subject appears so well deserving consideration that we shall speedily return to it.—Ed.]

IMPROVEMENT OF WILD FLOWERS.

Having derived much pleasure and some profitable hints from the perusal of the excellent papers on this subject, which have appeared in the "Florist's Journal," I beg to contribute my quota towards so desirable a consummation, as the improvement of our native Flora.

There are indeed very many of the denizens of our "woods and wilds" that at present receive but an occasional and cursory notice from the botanist, who, in his exploratory rambles, chances to stumble on a new habitat, and are again forgotten, save by the few who cherish a love of nature's wildings. These, if we could induce the pains-taking horticulturist to receive and foster them as he so assiduously does the products of a foreign clime, would, in my unhesitating opinion, shortly become equally as ornamental, with the great advantage of being constitutionally suited to our climate, and therefore of easy management. It would be no difficult matter to swell this paper by describing the superior and ready means of embellishment, this would place in the reach of every one, without regard to professional acquirements, affording even the suburban tyro a chance of ornamenting his garden-plot with subjects possessing no mean amount of interest.

The greater facility offered in the culture of a native over an exotic plant is however so apparent, as to need no enforcing. The following are a few which cannot fail to requite whatever attention they may meet, for even in their present state they are beautiful.

Campanula rotundifolia, Hare Bell.
Silene acaulis, Stemless Catchfly.
—— conica, Corn-field ditto.
—— anglica, English ditto.
—— Armeria, Lobels ditto.
Agrostemma coronaria, Rose Campion.
———— Flos-cuculi, Ragged Robbin.
Saponaria officinalis, Soap Wort.
Erica cinerea, Fine-leaved Heath.
—— Tetralix, Cross-leaved ditto, and their varieties.
Ononis arvensis, Rest Harrow.
Hieracium, any of the species, Hawkweed.

Sylva.

THE GROWTH OF HEATHS IN THE OPEN BORDER.

Previous to last spring I had heard of growing Ericas in a surprising manner by means of planting them in a bed in the open air, and in fact had seen something of the sort at one or two of the principal metropolitan nurseries, and therefore being very partial to the tribe I felt disposed to attempt the method, or at least to give it a trial; accordingly twenty-four plants were selected for the purpose, and I now send you the result.

It will be better perhaps to describe the bed, that others who may be induced to try the same means may know how to begin. A space, 18 feet long and 8 feet broad, was excavated to the depth of 1 foot in a perfectly open situation, unsheltered in any direction; the bottom of this hole was covered over with about 3 or 4 inches of broken pots, stones, and other material suitable for forming a drainage to the bed; in addition to this, another and deeper hole was sunk on the outside, and filled in like manner, being intended to act as a receiver of the superfluous water from the bed, the latter was filled about 3 inches above the surrounding surface with fibrous peat chopped together and mixed with a large quantity of broken stones, charcoal, bones, silver sand, and all the pieces of sticks, roots, &c. contained in it, and being pressed moderately firm, the plants were placed in it at once. This was the latter end of April, and the weather being very fine then, no apprehensions of frost were entertained. The kinds selected were 3 plants of Depressa, 5 of Tricolor in varieties, 9 of Ventricosa and varieties, 1 Hartnelli, 1 Aristata, 1 Beaumontia, 1 Irbyana, 1 Hybrida, 1 Wilmoreana, and 1 Jasminiflora alba. These were all small plants in sixty-sized pots; they were in a healthy growing condition all of them, except the Beaumontia and two of the Ventricosas; and odd enough they looked when first placed out, for you see I had allowed each plant a space of 2 square feet, and at that time they did not occupy much more than so many inches, and many were the jokes I was obliged to laugh at in consequence. However, the case is altered, for on the whole they now stand as thick or nearly so as you would recommend to place plants of their size that were growing in pots. With the exception of the Beaumontia which died outright, and one of the Ventricosas that was sickly when planted, all of them have made truly astonishing progress, and that too without any other attention than an occasional watering when first planted, and the necessary tieing into shape; for being determined to test the method as fully as possible, they were allowed to stand without covering of any kind; in fact, some apprehension was excited by the continued wet weather of the past summer, but the soil in which they stood being very pervious, and the hole on the outside drawing the water from the bottom of the bed, they stood unharmed, and never appeared to have more than they could properly appropriate. It was on account of the presence of so much moisture that I deemed it essentially necessary that it should remain uncovered even in the brightest sun-light, for knowing the plants would absorb a great quantity, I also knew they must be allowed the means to elaborate what they had thus secreted, and thus far have succeeded as well as could be wished. They are perfectly clean, not a symptom of mildew about them, and, what is my only trouble, are growing yet. Would you advise me to begin to cover them now in order to prevent any more rain falling on the bed, and thus induce them to ripen wood; and what sort of covering would you recommend, for I fully intend them to remain where they now stand through the approaching winter; and if they can be preserved till this time next year, there can be no doubt but that they will have filled the entire space allotted them.

HORTULANUS.

[By all means keep them as airy as possible, never covering them unless in the case of a heavy storm. The cold weather approaching will effectually stop their growth, and it is only necessary to insure them the means of ripening the new wood to enable them to pass through the winter, a contingency that does not rest entirely with any of us, as it depends chiefly on the amount of sun-light they may receive. With respect to the protection for the winter, we should recommend a wooden erection something like a low span-roofed pit, with lights hung to the ridge, the walls or sides to be hollow, formed by driving stout posts into the ground at the angles and wherever necessary, and covered on the outside by weather-boarding, and the inside to be lined with plain half-inch boards, the space between to be filled with saw-dust, this, with a sufficiency of mats or other covering to the glass, will, we think, protect them safely. —ED.

ARRANGEMENT OF ALPINES UPON ROCK-WORK.

From Lothian's Culture of Alpines.

IN placing out the plants, the proper disposal of them is essentially requisite for appearance, as well as to insure success in their culture. Therefore, the north side is to be taken up principally with cryptogamic plants, requiring the shade, and several strictly Alpine plants. To assist as much as possible, some trees planted on this side are further required. A more suitable tree cannot, perhaps, be introduced into such a place than the common thorn and its ornamental varieties, which is described by the Scottish bard as "The milk-white thorn that scents the evening gale." The larger ferns can be disposed among the crevices and at the foot, where the soil consists of peat, leaf-mould, and sandy loam; while the lesser ones and mosses can be planted as follows:—

The stones already mentioned as being excavated or worn by the waves, to be filled when for ferns with peat, leaf-mould, and a little white sand, and then planted with such as the *Adiantum*, or maiden-hair family, *Polypodium vulgare, Asplenium Trichomanes, A. viride*, &c.; also *Scolopendrium, Cystopteris, Cryptogramma*, and *Hymenophyllum*, besides *Grammitis Ceterach*, a pretty little rare fern.

Again, for mosses, let as much of the soil in which the plants are growing naturally, be taken up with each plant (or tuft) as will fill the stone or hollow, observing to leave it below the lip, in order that the rain may lodge therein to supply the plants with sufficient moisture; and those growing upon sticks or stones can be placed in the cavities with the pieces along with them. A collection of mosses thus formed would even of themselves prove very interesting about a place. Many of the Lichens will also succeed by this treatment, which are highly interesting and beautiful, such as *Scyphophorus cocciferus, Lecanora tartarea, &c.*

On the top and sides of the rockery, *Thymus, Iberis, Parietaria, Linaria, Phlox* (dwarf), *Saxifraga, Veronica, Polygala, Cochlearia, Draba*, and many others of a similar nature may be placed. Succulent plants also, such as *Sempervivum, Sedum, Mesembryanthemum*, &c., will thrive most luxuriantly on stones, as recommended for mosses, the spaces being filled with sandy loam and a little peat. Here and there, throughout the rockery, may also be planted the common heather and other hardy heaths, which have a very imposing effect during the summer and autumn months. In the border, along the base of the rockwork, may be planted heaths, *Vaccinium, Azalea procumbens*, and other dwarf shrubs; *Rubus Chamæmorus, R. arcticus*, and others of the genus must be raised a little higher. They may be planted in good-sized boxes, sunk in the rockery among the stones, the soil for them being composed of bog-mould and white sand. Maritime plants can be planted appropriately at intervals round the pond at the base of the rock-work.

In a corner of the pond, some of the larger grasses, &c. may be planted, such as *Typha latifolia*, *T. angustifolia*, and *T. minor*, and many others, particularly *Alisma plantago*, which appears to great advantage.

In the pond, *Nymphæa lutea* and *alba*, *Ranunculus aquatilis*, and other aquatics, may be stationed; but in planting these they should first be placed in large pots, which should be cracked, so that when the roots begin to extend themselves into the soil at the bottom, the pots may fall away: they may be tied round the mouth with small twine, which will keep the pots together until the plants are settled and beginning to strike out roots; by that time the twine is rotten, and consequently will give way.

GLOSSARY OF TERMS USED IN BOTANICAL DESCRIPTIONS.

(*Continued from* p. 194.)

Capillary—Capillaceous. Slender, resembling a hair.

Capillate. Composed of, or covered with, fine hairs.

Capitate. Headed, applied to a single organ, as the stigma, when the apex is round and blunt like the head of a pin, and to the entire inflorescence when it is produced in small dense heads.

Capitular. Growing in small heads.

Capreolate. Producing tendrils like the vine.

Capsule. A seed-vessel, to which the seed does not in any way adhere, as in the auricula, pink, &c.

Capsular. Having a large or otherwise remarkable capsule.

Carcerula. An indehiscent seed-vessel, having several cells arranged round a common centre, as in Malva.

Carina. A keel, usually applied to the two lower petals of a papilionaceous flower.

Carinate — Carinatus. Formed like the keel of a boat.

Carious. Decayed.

Carneus. Pale pink, flesh-colour.

Carnosus. Of a firm, fleshy substance.

Carpels—Carpella. The several portions into which a compound fruit may be divided.

Carpology. The scientific explanation of the structure of fruits and seeds.

Cartilaginous. Gristly, of a tough, hard substance.

Cassideous. Helmet-shaped.

Catapetalous. When the petals of a flower are joined to the base of the stamens.

Catulus. A catkin, synonyme for Amentum.

Caudate. Having a long projecting extremity like a tail.

Caudex. The trunk or principal stem.

Caudicula. Small membraneous appendages, to which the pollen masses of some Orchideæ are fixed.

Caulescent. Acquiring a distinct stem.

Cauliculi. Stems rising directly from the neck.

Cauline. Growing upon or belonging to the stem.

Caulis. A stem composed of cellular tissue alone, or, in other words, is "soft-wooded," in contra-distinction to the caudex, or "hard-wooded," trunk.

Cellula—Cella. Each of the vesicles composing cellular tissue.

Cellular Tissue. The substance of which a great portion of all vegetable matter is composed; it is formed by the collection of minute, irregular-shaped vesicles, containing fluid.

Centrifugal. This term is applied when the flowers of a peduncle expand at the centre first, and in succession towards the outside.

Centripetal. The opposite of the above.

Cepaceous. Partaking of the properties of an onion.

Ceraceous—Cereus. Of the substance or nature of wax.

Ceratium. A long bivalved, one-celled seed-vessel.

Cerealis. Belonging to the group of corn-bearing plants.

Cerinus. Of the colour of wax.

Cernuous. Nodding, drooping.

Cervinus. Fawn-colour, tawny.

Channelled. Furrowed, plants are channel-leaved when the margins of the foliage are folded together so as to form a conduit.

Chartaceous. Thin, flexible, nearly transparent, resembling paper.

Charred. Blackened as by fire.

Chloranthia. A disturbed condition of the floral organs, when they assume the colour or form of leaves.

Chlorophylla. The green colouring matter of plants.

Chlorosis. A diseased state of the foliage, in consequence of which it loses its natural green colour.

Chromula. The colouring matter of flowers.

Cicatricule — Cicatrix. A small scar left by the fallen petiole.

Ciliæ. Small, fringe-like hairs, resembling those of the eye-lash.

Ciliaris — Ciliated. Fringed with fine hairs.

Cinereous. Grey, formed by an equal mixture of black and white. *Cineraceous*, paler, and *Cinerascens*, very pale grey.

Cingulum. That portion of a plant immediately between the stem and the roots, the neck.

Cinnabarinus. Vermilion, scarlet tinted with yellow.

Cinnamomeus. Light brown, the colour of cinnamon.

Circinate. Curved closely inwards like a crosier.

LIST OF NEW PLANTS.

CINCHONACEÆ. — *Pentandria Monogynia.*

Gardenia Stanleyana. This noble stove plant is a native of Sierra Leone, whence it was lately introduced by Mr. Whitfield. It is remarkable for its immense trumpet-shaped flowers, measuring 8 or 9 inches long, and nearly 5 inches broad; they are marked in the throat with blotches of a lurid red, interspersed with green, which extend all over the base of the limb, and are relieved and heightened by a broad margin of pure snow-white.

Mr. Glendinning in a note says, “ The flowers are sent up in great profusion from the base of the numerous shoots, which, under good management, are always abundant and healthy. What will render the plant a great favourite in our stoves is its easy cultivation. I would recommend rough peat, leaf-mould, and silver sand, in nearly equal proportions. Let the pots be well drained, and place a little moss over the drainage before potting, to prevent the compost from mixing with the drainage. Place the plant in a rather high temperature in a close house or pit, and give abundance of atmospheric moisture. Under these circumstances, the cultivation and flowering of this choice exotic will be certain and complete.” It was named by Sir William Hooker after the Earl of Derby, in whose service Mr. Whitfield was engaged when he discovered the plant. — *Bot. Reg.* 47—45.

MYRSINACEÆ. — *Pentandria Monogynia.*

Labisia pothoina. A singular plant from Penang, presented to the Horticultural Society by T. Lewis, Esq. In the early stages of its progress it was taken, by its general appearance, for a Pothos, or some such plant. However, on the production of flowers, it was found to belong to the family of Ardisias. The flowers individually are small, but being borne on a thickly-covered spike, are rather pretty; they are white, or pale rose colour. The plant requires the ordinary treatment of stove plants. — *Bot. Reg.* 48—45.

LAMIACEÆ. — *Didynamia Gymnospermia.*

Eremostachys laciniata. A strong-growing, hardy perennial, with large spindle-shaped roots, and a stem from 4 to 6 feet high. The Salvia-like flowers are yellow and bright orange. It is a native of dry hills on the eastern side of Caucasus, and in cultivation requires to be kept as free from superfluous moisture as possible, to assist in which the large fleshy roots should be placed only half way in the earth, and the protection of a cold frame for the same reason is found necessary in winter. — *Bot. Reg.* 52—45.

LEGUMINOSÆ. — *Decandria Monogynia.*

Gompholobium versicolor var. caulibus purpureis. A very handsome variety, with purple stems, and large orange-red flowers. It is a suffruticose plant, raised by Messrs. Lucombe, Pince, and Co., from seeds sent home by Mr. James Drummond from the Swan River; the flowers are peculiarly beautiful just before expansion; when the rich and deep scarlet of the standard alone is seen, they become paler in age. — *Bot. Mag.* 4179.

[It will be quite necessary, before Messrs. Lucombe, Pince, and Co. send this plant into the world, to name it afresh, for the above interminable one is carrying the joke rather too far.]

HÆMODORACEÆ. — *Hexandria Monogynia.*

Anigozanthus pulcherrimus. One of the most beautiful of this fine genus, from its copious and richly-coloured flowers and flowering branches; the former being bright yellow, the latter clothed with scarlet hairs, curiously branched on a yellow ground. It is a native of the Swan River settlement, where it was detected by our indefatigable friend Mr. James Drummond. From seeds sent by him it has been raised by Mr. Lowe, of Clapton Nursery. It has not yet, however, as far as I am aware, bloomed in this country, and our figure is taken from a dried native specimen sent by Mr. Drummond, in which, from the nature of the plant, and of its vestiture, the form and colours are as well preserved as if seen in a living state. Perhaps in the general structure of the blossoms it comes nearest to A. flavidus, but the flowers are much shorter, and the panicle and leaves and clothing are all very different in the two species. It loves a light sandy soil, and the protection of a good greenhouse, and will prove a highly ornamental plant to our gardens. — *Bot. Mag.* 4180.

CYRTANDRACEÆ. — *Didynamia Angiospermia.*

Chirita zeylanica. The family of *Cyrtandraceæ*, like their affinities the *Gesneraceæ* (of which indeed Mr. Brown considers them a group or section), are of great beauty and easy cultivation, and they seem to abound in the East Indies as the true *Gesneraceæ* do in the tropical parts of the New World. Our present species is a native of Ceylon, and was raised from seeds sent from that island by Mr. Henderson, the scientific gardener to Lord Fitzwilliam. It is a free-flowering plant, growing about a foot high; the flowers are large and handsome; the limb of the corolla is a rich dark purple, and the tube is reddish and paler. It requires the treatment of Gesneraceous plants. — *Bot. Mag.* 4182.

AMARYLLIDACEÆ. — *Hexandria Monogynia.*

Griffinia hyacinthina. A lovely plant, not new, but rather scarce, closely allied to Amaryllis, from which it differs materially in the colour, the flowers of the present species being a bright ultra-marine blue. It was discovered in Brazil by Mr. E. Nordford, and imported to this country in 1815 by Mr. Griffin, of South Lambeth, in compliment to whom it is named. There are several varieties of the species; that figured was bloomed in the nursery of Mr. Jackson, at Kingston; the segmental divisions of the corolla are broader than is usual in the other varieties.—*Pax. Mag. Bot.*

LILIACEÆ. — *Hexandria Monogynia.*

Ornithogalum aureum. This species, although nearly half a century has passed away since its first introduction, is yet by no means common. Most of the specimens now existing in collections, we believe, have been imported within the last few years, along with other "Stars of Bethlehem," and a host of the Iridaceous plants which throng the terraced lands of the Cape of Good Hope.

The length and breadth of the foliage of *O. aureum* are somewhat variable, so also is the colour of the flowers, which runs through several grades of yellow; the flowers, moreover, of some specimens expand widely, whilst in others they partake more of a cup-like form. As the interior portion of the flower is the most brightly coloured, it is almost superfluous to add, that the former are by much the most handsome. The blossoms are produced in succession upon a thickly-set raceme, which ultimately attains a height of from 12 to 18 inches; and as several are developed at one time, they form a very beautiful object, which continues for a long period. It may be grown in pots for the greenhouse, or in a warm border in the open air; if the latter plan is adopted, the bulbs should be taken up in autumn, and kept in a dry situation. — *Pax. Mag. Bot.*

ERICACEÆ. — *Pentandria Monogynia.*

Azalea Lœtitiæ. This beautiful and fragrant hybrid was obtained by the Hon. and Rev. W. Herbert, from seed of a common Rhododendron ponticum, impregnated in the greenhouse at Spofforth by pollen of Azalea. It produces a dense head of white flowers, the upper petals of which are feathered with orange and yellow. — *Bot. Reg.* 51—45.

ORCHIDACEÆ § ARETHUSEÆ.— *Gynandria Monandria.*

Chlorœa virescens. A terrestrial Orchidaceous plant from the subalpine pastures of the Cordilleras of Chili, with handsome bright orange-coloured flowers, borne on a dense, erect raceme. It has been reared by Mr. Cameron, the intelligent and skilful curator of the Botanic Garden, Birmingham, who exhibited it at the last May exhibition in the garden of the Horticultural Society as the *Chlorœa chrysantha* of Pöppig, in which he is probably correct; but it is also the *C. virescens*, so called on account of the green veins which are drawn over the orange ground colour of the gaudy flowers, and the latter name being the oldest, must be retained. It requires to be grown in a warm greenhouse, with an ample supply of water during the growing season, and to be kept dry when the leaves die down for the winter. — *Bot. Reg.* 49—45.

Cymbidium Mastersii. We have no information concerning this plant, further than that it was received from the East Indies by Messrs. Loddiges in the year 1841, and blossomed in December, 1844. It is a very distinct species, with snow-white flowers, sweet-scented with the fragrance of almonds. Its erect flower-stalk, closely-covered with long, green, sharp-pointed, equitant, imbricated sheaths, is quite unlike that of any other species.

It was, we understand, named by the late Mr. Griffith after Mr. Masters, one of the principal assistants in the Botanic Garden, Calcutta.—*Bot. Reg.* 50—45.

LITERARY NOTICE.

Practical Hints on the Culture and General Management of Alpine or Rock Plants. By James Lothian, Gardener to W. A. Campbell, Esq. of Ormsary. London: S. Highley. Edinburgh: W. H. Lizars.

Mr. Lothian's motive in preparing this volume for the press was, as he informs us in his preface, founded in a desire to be useful in assisting the inexperienced botanical cultivator to grow successfully the interesting group of plants to which his book relates. They are, he says, singularly beautiful, easy of cultivation, nor is there a class of plants more worthy the attention of ladies. Many of the Alpines may also be successfully grown in Wardian cases, and thus become beautiful ornaments to a town residence, or even the more humble abodes of the working classes.

For the construction of rock-work, whether on a magnificent or smaller scale, the directions are explicit and practical, showing the kind of materials to be used and how to use them. This part of the work is illustrated by some useful plans, including ponds for aquatic plants. At the end of the book are well arranged lists of alpines, ferns, marsh or bog plants, plants for the pond, American shrubs and mosses. There are also coloured plates of some of the more beautiful species.

A careful perusal and examination of the contents of Mr. Lothian's little volume convinces us that it is well adapted for the purpose intended by its author; we therefore cordially recommend it to the notice of our readers, and to all lovers of Alpine or Rock Plants.

FLORAL INTELLIGENCE.

Royal South London Floricultural Society.

The third exhibition of this Society took place on Wednesday, July 23. The exhibition was by far the best which we ever remember to have been seen under the auspices of the Society. We refer especially to the heaths, the miscellaneous plants, the carnations, the picotees, and the cut flowers, as being not only numerous, but in the highest state of cultivation.

There were three large collections of 18 miscellaneous plants. Mr. Ayres, of Brooklands, obtained the Gold Medal. Mr. Bruce, of Tooting, and Mr. Young, of Camberwell, also exhibited in this class, and were placed as their names occur. In Mr. Ayres' collection were two very beautiful dwarf plants of Erica ampullacea, quite a mass of bloom; Angelonia salicifolia; Begonia coccinea, very good; and Gloriosa superba. For 10 plants the large Victoria Medal was awarded to Mr. Roser, of Streatham. Mr. Hamp, of South Lambeth, gained the Large Linnæan; he had a good plant of Ceropegia elegans. Mr. Plant, of Stratford, obtained the Small Linnæan, and had a fine plant of Boronia viminea, 1 foot high by 2 feet across, and a plant of Leianthus nigrescens. Mr. Kaye, of Norwood, also exhibited in this class. Among specimen plants, Mr. Ayres had a good Leschenaultia formosa, 2 feet by 2 feet, to which the Large Linnæan was awarded; with it was a good Erica juliana and Pentas carnea. The Small Minerva was given to Mr. Cuthill for a tall Lisianthus Russellianus, with about forty expanded flowers.

The Heaths sent from the nursery of Messrs. Fairbairn were quite an exhibition of themselves. For 12 plants they received the Large Victoria Medal. This collection contained E. ampullacea rubra, about a foot high and 3 feet through; E. ampullacea, about the same size; and E. Irbyana, 2 feet by 3 feet; E. gemmifera, E. eximia, E. oblata, E. jasminiflora alba, E. Wilsonii, a good seedling variety, with very large flowers in the way of tricolor; E. princeps, E. tricolor coronata, E. Savileana, and E. tricolor rosea. Besides these, Messrs. Fairbairn exhibited 24 plants, to which an extra prize was given. Mr. Dawson, of Brixton, obtained the Large Linnæan for 8 plants, containing E. Irbyana, 4 feet high; E. infundibuliformis, 2 feet by 2 feet; E. ampullacea, 2 feet by 3 feet; and E. Aitoniana. Mr. Bruce obtained the Large Linnæan for 6 plants, including E. viridifolia, a very large plant: Mr. Roser and Mr. Doran contributed to this class. Of specimen Heaths, Mr. Dawson had a good E. Massonii, 2 feet by 3 feet, for which the Small Victoria was given. Messrs. Fairbairn obtained the Small Linnæan for E. Shannoniana, 3 feet by 3 feet. Mr. Dawson obtained the Small Minerva for E. infundibuliformis, 3 feet by 3 feet.

Mr. Plant, gardener to J. H. Schröder, Esq., of Stratford, obtained the Large Victoria for Orchidaceous plants. This collection contained Lycaste tetragona, L. macrophylla, L. Harrisoniæ, Cattleya intermedia, Vanda cristata, Promenœa stapelioides, Oncidium Papilio, Stanhopea insignis, Broughtonia sanguinea, and Cycnoches Loddigesii.

Mr. Forster exhibited two collections of Pelargoniums in very good condition; an extra prize was given. Mr. Chapman received a Small Linnæan for 12 scarlet Pelargonium compactum.

Fuchsias, for collections of 8, Mr. Roser gained the Small Victoria: he had a good F. corymbiflora, with about 40 bunches of flowers. Mr. Robinson, Mr. Corbin, and Mr. Jenkins exhibited in this class. In the nurseryman's class, Mr. Jennings obtained the Small Victoria, Mr. Fowle the Large Linnæan, Mr. Pawsey the Small Minerva. Mr. Fowle, of Brixton, and Mr. T. Banks, of the New Kent Road, had seedling Fuchsias. A first class certificate was given to one of Mr. Fowle's, named Exquisite; the flowers are short and broad, with a short pink tube, pink sepals tipped with green, and dark petals: the habit is good, and blooms abundantly. One of Mr. Banks' had small flowers, with nearly white tubes and sepals, and dark petals.

Petunias were numerous. Mr. Fowle had plants of 12 varities, containing Peliana, Pet, Queen of May, Kentish Beauty, Fowle's Una, a rosy lilac, veined, of good shape; and Girling's Portrait, a pretty lilac, veined. Mr. Ivery, of Peckham, had also a collection; among the best were Ivery's Prince Albert, rose-crimson; Ivery's Pet, small, rosy lilac, veined, with small blotches round the margin; Ivery's Reliance, lilac, veined; Girling's Perfection. Mr. Conolly, of Brixton, had a dozen plants of finely grown Cockscombs, to which an extra prize was given. Mr. Ivery had a seedling Delphinium, named Iveryana, in the way of the double Chinese, with double blue flowers. Mr. Fowle had a collection of Verbenas. Mr. Fry, Mr. Smith, and Mr. Ottey, had stands of Cut Blooms. Mr. Wood had a collection of Alpines; Mr. Fowle had, of his Antirrhinums, luteum, delicatum, atrostriatum, Fowlii, venosum, and several others.

The collections of Cut Flowers were very numerous. The best was produced by Mr. Bruce, who had the Large Linnæan awarded to him. Another collection from Mr. Hamp, received the Small Minerva, and Mr. Parsons received the Small Linnæan. The Small Victoria was given to Mr. Robinson. In the nurserymen's class, a Small Victoria was given to Mr. Chapman, whose collection contained a box of carnations and picotees. Mr. Jennings received the Small Linnæan for a collection. A Small Minerva was given to F. B. Garty, Esq., as an extra prize for cut flowers arranged in a device. There were several collections of cut British plants. Mr. Williamson, of Kew, gained the Small Linnæan for a very good group. Mr. Hood produced a collection of British mosses.

Roses. In the amateurs' class, the Large Linnæan was given to Mr. Terry, the Small Victoria to Mr. A. Parsons. The nurseryman's Large Linnæan was awarded to Messrs. Paul and Son, and the Small Victoria was given to Mr. Francis. For Pansies an extra prize was given to Mr. Hall.

The display of Carnations and Picotees was exceedingly good. Two five guinea cups were offered by Mr. J. Dickson, one for carnations and the other for white ground picotees. The former was won by Mr. Edwards, of Holloway, whose stand contained Wood's William the Fourth, Puxley's Prince Albert, Ely's William à Beckett, Milwood's Premier, Spong's Duke of York, Hale's Prince Albert, Tomlin's Briseis, Smith's Mrs. Smith, Smith's Duke of Wellington, Mansley's Beauty of Woodhouse, Brook's Flora's Garland, and Chadwick's Brilliant; Mr. Embleton being second, and receiving an extra prize. Among amateurs, the Gold Medal was awarded to Mr. Reeves, who had Beauty of Woodhouse, Lady Rowley, Squire's Defiance, Strong's King, Armato, Lady Bamborough, Smith's Duke of Wellington, Wilson's William the Fourth, Jacques' Iris, Wilmer's Hero, Wilson's Harriet, and Strong's Alfred. The Large Linnæan was given to Mr. Trevers, the Small Victoria to Mr. Leach. Mr. Edwards and Mr. Alloway also exhibited in this class. Among Florists, Messrs. Norman obtained the Large Linnæan for Brooks's Flora's Garland, Smith's Lord Combermere, Cartwright's Rainbow, Mansley's Beauty of Woodhouse, Ely's Sir R. Hill, Wildman's Buonaparte, Wilmer's Duke of York, Holmes' Count Paulini, Puxley's Prince Albert, Ely's Lady Ely, Ely's John Bright, and Hepworth's True Briton. Mr. Dickson's Cup for picotees was won by Mr. Edmonds with Burrough's Lady Douro, Wildman's Isabella, Burrough's Miss Jane, Edmonds' Prince of Wales, Mrs. Barnard, Sharp's Wellington, Mrs. Bevan, Ely's Favourite, Wilmer's Princess Royal, Green's Queen, Sir W. Middleton, and Duke of Newcastle. Mr. Leach obtained an extra prize.

In the amateurs' class, the Gold Medal was also won by Mr. Edmonds with Green's Queen, Seedling 104.; Lady Alice Peel, Burrough's Miss Jane, Mrs. Barnard, Mrs. Bevan, Edmonds' Prince of Wales, Wildman's Isabella, Lady Chesterfield, Barraud's Bride, and Ely's Field Marshal. Mr. Embledon obtained the Large Victoria, Mr. Newhall the Small Victoria; Mr. Leach and Mr. Trevers were competitors. In the florists' class, Mr. Keynes won the Large Linnæan with Burrough's Mrs. Bevan, Ely's Field Marshal, Brinklow's Lady Chesterfield, Crash's Queen Victoria, Tandy's Victoria, Dickson's Trip to Cambridge, Burrough's Duke of Newcastle, Sharp's L'Elegante, Kirkland's Augusta, Wilmer's Princess Royal, Sharp's Cleopatra, and Ely's Favourite. Mr. Norman obtained the Small Victoria, and Mr. John Dickson the Small Minerva.

TO CORRESPONDENTS.

One of Us. — Tropœolum edule, T. Lobbianum, T. Moritzianum, and T. pentaphyllum, are all that are suitable for the trellis at the back of a greenhouse, and *they* will cover a large space. Any respectable nurserymen will supply them. The two first are rather high-priced. The other species we should recommend you to procure are T. Jarratii, T. azurea, and T. brachycerus (see last July No.), though they will not succeed in the situation mentioned, but require to be grown in pots, and trained to a light wire trellis.

Leopold Bossange. — We regret exceedingly the accident which has happened to your plant, as we feel very curious to know what it can be, and shall certainly hope for the opportunity of seeing it next year. If it belongs to *Liliaceæ*, there is or was *certainly* a bulbous root attached to it, which you have not mentioned, and may still remain where the plant was placed. Your letter did not reach us till too late for last month.

A Gardener. — The last edition of Donn's Hortus Cantabrigiensis is the only perfect catalogue; it contains all the introductions up to the date of its being published, which is very recent.

X. T. — We really see no difference in the Dahlia sent as a seedling and the old "Nonpareil."

J. De L. — Yes, we can recommend a person who will suit you exactly.

F. Simpson. — Only No. 4. of the seedling Fuchsias is worth preserving; the tube and sepals of this are bright carmine, very smooth, and large, and contrast finely with the rich purple corolla. We only wish the latter was larger; if it is a free bloomer, it will make a desirable variety. Nos. 6. and 10. of the Petunias are, as nearly as we could judge, finely-formed flowers; the first a deep rose, which is remarkable for having a light-coloured throat; the other a pale lavender, with bright irregular edging of pale crimson.

E. Thompson. — Good for nothing.

CALENDAR FOR OCTOBER.

Of flowering plants, the only native species marked as expanding its bloom during October is the Ivy, the berries of which also ripening during the winter afford a considerable supply of food to various birds when few other berries are to be had, with the exception of the Mistletoe. But if flowering plants are scarce, the cryptogamic forms are very numerous, and will afford considerable employment to those anxious to become acquainted with the very various and often singular forms which they assume. Among these perhaps the most curious and beautiful are the Jungermannias, common in damp places among moss, on trunks of trees, &c. The filmy and transparent texture of their leaves, singular outline, and beautiful green colour of many render them excellent objects for drying, as they retain their colours, and might be arranged in various ways on paper, as is done with the finer sorts of seaweeds. Many mosses will be in perfection during the month, and a collection could be easily formed by any person wishing to study them closely. An old wall, or pile of artificial rock-work, damp corners where nothing else would vegetate, and various other places, even a damp stove, might be used for such a purpose, and a large collection might soon be formed, and studied at leisure.

In the Flower-Garden all plants intended to be potted up should, if possible, be secured before frosted; if not up they should be protected until they can be lifted, and properly put by for the winter. The beds should be prepared for spring bulbs as they are emptied of their summer plants, and the bulbs planted before the end of the month. With Crocus edgings, and a few beds filled with Hyacinths of distinct colours, an excellent effect can be produced early in spring, not to mention the many other species of bulbs which may be applied to a similar purpose. All bulbs should be planted immediately they show the least indication of growth, to keep them out of the earth after that only weakens them, and consequently injures the future bloom.

In the Greenhouse and pits care must be taken to avoid damp as much as possible, the plants not requiring much water at this season. All plants potted up in particular must be carefully guarded against wet, merely enough water to keep them from absolutely shrivelling being quite sufficient for them. A free admission of air, so that the temperature be not too much reduced, is the best preventative of damp, whenever the weather permits.

In the Stove the temperature should range from 56° to 60° during the night, to 70° to 75° by day, according to the state of the weather; which will also regulate the supply of moisture, bearing in mind that in the dull season approaching a less humid atmosphere is required. A point of some importance to attend to now, where hardy shrubs and other plants are required for early forcing, is to let them get pretty dry at the root, and thus throw them into as complete a state of rest as possible. They will be found to be more easily excited when introduced to the house, and will progress more evenly.

D. M.

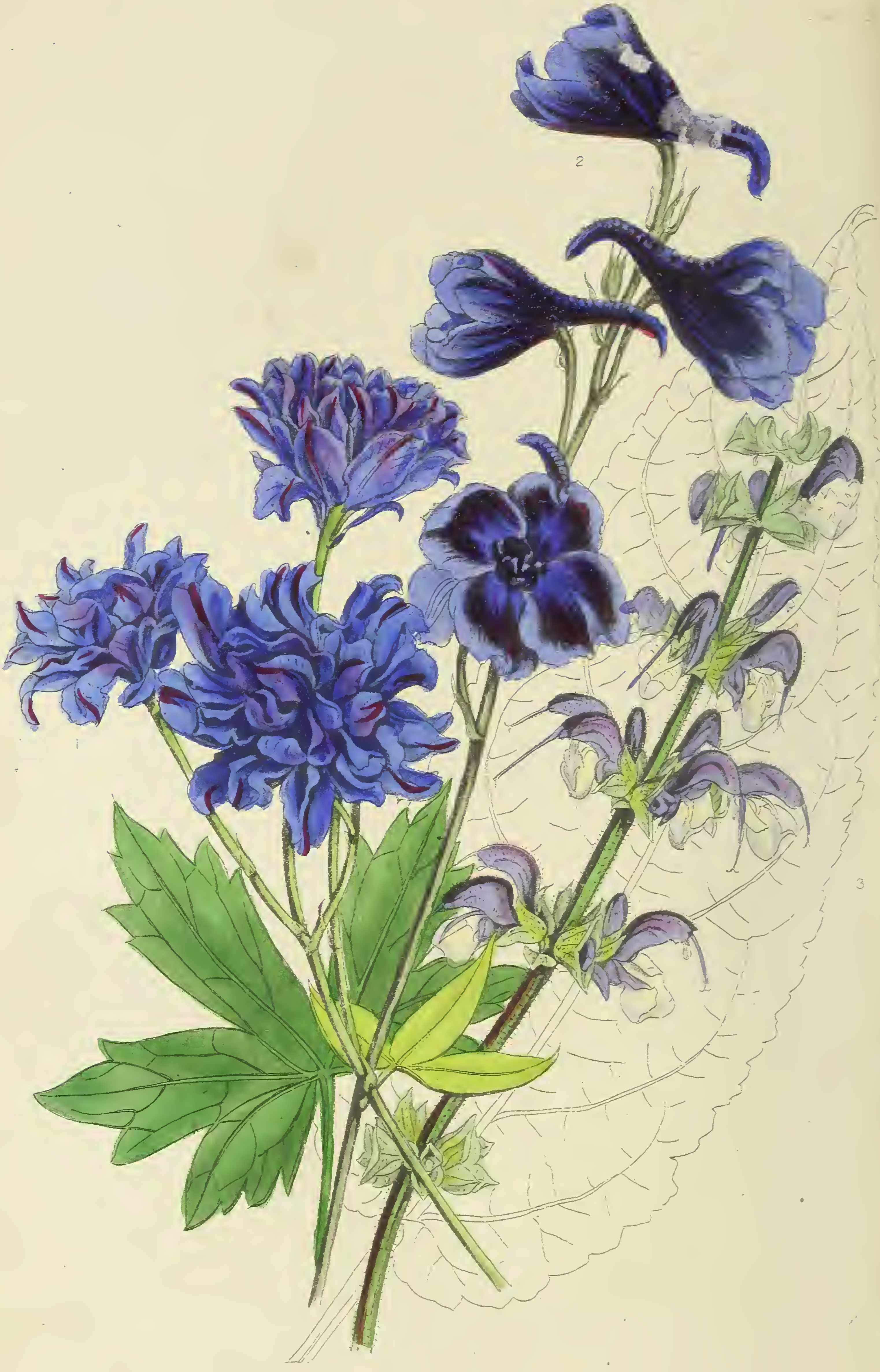
Florists' Flowers. The smaller offsets, seedlings, and indeed the general stock of spare roots of Tulips, may be planted by about the middle of the month with advantage, as it induces a vigorous growth when the roots are put into the ground at an early period; the principal flowering bulbs, on the contrary, are better when planted as late as can be done with safety, especially those of a coarse strain.

Picotee and Carnation layers will require early attention to get them potted for the winter, and should be proceeded with as speedily as possible, that they may become timely established: loam, free from all admixture, is decidedly the best material to winter them in.

A few Anemones and Turban Ranunculuses may be planted for an early bloom.

Dry off the pot roots of choice Dahlias, and observe to place a good layer of rotten leaves or mulch over the roots of those in the ground, as a protection against the first frosts.

P.



DELPHINIUM [illegible]ERIANUM _ 2 DELPHINIUM SPLENDIDUM _ 3 SALVIA CAPENSIS GRANDIFLORA

THE

FLORIST'S JOURNAL.

November, 1845.

ON THE GENERA DELPHINIUM AND SALVIA.

WITH AN ILLUSTRATION.

Our accompanying plate contains a group that may fairly claim to rank among the most interesting and useful of the long list of hardy ornamental plants. They afford another instance of what may be done in the improvement of races, by attention to the production of seedlings, the whole of them being seminal varieties of old and well known species, though so great a difference exists in the present and normal condition of the kinds.

1. *Delphinium Iveryanum* is a double variety of *D. Chinense*, a species introduced from Tartary in 1819, and an universal favourite. It has given birth to several varieties until it is completely obscured by its own progeny, the present far surpassing all previous ones. Its name is a compliment to Mr. Ivery, the enterprising nurseryman of Peckham, to whom we are indebted for the three subjects which form our plate. It is a dwarf variety, seldom attaining more than two feet in height.

2. *D. splendidum* was obtained, we believe, from *D. grandiflorum*, a species originally brought from Siberia, above a hundred years since. The variety attains a height of about 3 feet, fully one half of which is taken up with the spike of flowers, and these being produced numerously from the base of esta-

blished plants, present an object which really deserves its name.

The value of this lovely tribe of plants for flower-gardening purposes is estimated so highly, that we find some members of the genus in every place possessing but the least claims to excellence, and justly do they merit this preference, whether founded on individual beauty, or their collective elegance and pleasing variety; for such is the intense lustre of the majority, that let a species be introduced where it may, it is sure to attract admiration, and we strongly recommend their yet further adoption as of great assistance in the purposes of summer embellishments; and the more especially now as they indicate an increasing tendency to improve and vary in proportion to the care bestowed on them. Their cultivation is of the easiest description, the majority requiring merely to be planted in good garden soil, where, from their naturally hardy and vigorous character, they speedily form considerable masses, and bloom most abundantly. There are, however, a few of the finer kinds, such as *D. Chinense* and its varieties, together with *D. intermedium*, *azureum*, and the double varieties of *grandiflorum*, that require a slight protection, such as that afforded by a cold frame, in severe weather, and this more for the purpose of warding off a superfluity of moisture than from any inherent inability to withstand the cold. The whole of them may be increased by division of the stool or root, and the single flowering kinds, by means of their seeds. The comparatively tender kinds just mentioned should be divided on the approach of winter, and be then potted separately in rather small pots filled with light fibrous loam, and being placed in a common frame will be secure for the following season. This description of loam is perhaps the best material in which to preserve nearly all kinds of plants through the damp weather of our winter months, as it retains about the roots of the plants a proper amount of moisture for a long time, thus preventing the necessity of frequent applications, and yet, from its porous texture, water is never present in any excess; and further, from the same cause, the soil is far less subject to the violent rending, observable in closer soils, by the action of frost.

The following brief summary of the most interesting portion of the genus may be useful to those forming collections of herbaceous plants, a class entitled to much more attention than they often receive: —

D. Ajacis, so called from a fancied resemblance in the markings of the flowers to the letters AJA. It is an annual, producing pink blossoms. A native of Switzerland, whence it was brought in 1573, and is by some considered to be a variety of the species *Consolida.*

D. amœnum. A perennial with pale blue flowers, introduced from Siberia in 1818; it is of rather rambling habit.

D. azureum. A perennial with beautiful bright blue flowers; it is a tall growing species, well suited for the centre of a group, and coming from Carolina, is somewhat tender.

D. Barlowii. A beautiful hybrid, with shaded flowers of an intense dark blue; should be in every collection.

D. Consolida. An indigenous annual, producing flowers of several shades of blue, but always beautiful, and well deserving a place in every garden.

D. Consolida pleno. A double variety of the above, bearing blue flowers occasionally interspersed with red; it is comparatively tender.

D. chinense. A perennial from China, introduced in 1818; the flowers are of an intense deep blue, and being of dwarf habit, the plant is a general favourite. As already mentioned, there are several varieties of this species.

D. elegans pleno. A double seminal variety, perfectly hardy; the flowers are dark blue.

D. grandiflorum. A perennial from Siberia; its flowers are very dark blue. There are three varieties of this species besides that now figured: the *album,* a very good white; *pallidum,* having pale blue flowers; and a double one: they are all beautiful.

D. peregrinum and its varieties are too well known to require any description.

D. Requienii is a curious biennial, with pale blue, from the island of Majorca, whence it was brought in 1824.

Besides these there are a few others remarkable for their colours, which are at present very scarce: these are *ochroleucum,* yellowish white, *pseudo-peregrinum,* red, and *revolutum,* pale blue; all of them are hardy herbaceous perennials. In fact, though a few of those mentioned in the foregoing remarks are distinguished as comparatively tender, it must be understood that in favourable situations, on soils not retentive of moisture, the whole of them will bear perfect exposure with impunity.

The generic term Delphinium is derived from the Greek *delphin*, a dolphin, from a fancied likeness of the nectary to the imaginary figures of those fishes.

The third figure of our plate, *Salvia capensis grandiflora*, is also a seedling variety, derived from *S. capensis*, a species that has hitherto eluded enumeration in the catalogues. The superiority of the variety consists in its longer and more densely filled spikes of flowers. It is a dwarf herbaceous plant, most profuse in its blooming, and well calculated for bedding, or to be planted singly among rock-work, where, from the number and lively pleasing colour of its flowers, it forms a most attractive object. It is, moreover, likely to be found quite hardy in tolerably good stations that have efficient drainage, or, at most, will not require more than to be included with plants usually preserved in a cold pit.

Since the introduction of *S. patens* in 1838, very little has been heard of this extensive and extremely beautiful genus. We are much surprised that experimental cultivators do not take it into their notice, and the more so when the long list of species it presents, and their many colours and characters, are taken into consideration. Surely from among upwards of a hundred different kinds something may be obtained that will repay the search, and it must be remembered they are all of easy culture, and not difficult to obtain. However, with this hint we leave the subject for the present, and conclude by again recommending each of the plants figured as being certain to please the most fastidious. — Ed.

THE PRESERVATION OF BEDDING PLANTS.

There is a method of preserving tender bedding plants, such as Verbenas, Scarlet Geraniums, &c. through the winter, which, though not new, deserves mention, and much more general adoption than it receives at present; from its universal applicability, and the great success attending its employment, I think this neglect can only arise from the method not being sufficiently known.

It is simply to build up a bed of peat, about eighteen inches or two feet in height, in the manner of a common hot-bed, only continuing the outer sods a foot higher than the interior, to form a wall on which the lights are to rest; these walls must be made secure with stakes driven through them, and a slight curb placed on the top, and the job is complete; the plants are then planted at regular intervals over the bed, and with the lights on and the attention to covering, &c. usually given to pits, will bid defiance to the severest weather of our winters. It will be seen the method is inexpensive, as the peat will be in an excellent state for using in the following summer, and the plants themselves occasion far less trouble, as they require no water after the first application at planting, and from being well established in the soil are enabled to withstand uninjured a degree of cold that would be fatal to them in pots; in fact, though it should happen that some of the branches catch a little frost, it is next to impossible that the roots or lower parts of the stem can, from the amount of radiated heat that will be given off from the body of the bed whenever the external temperature is below that of the bed.

The plan is one which seems peculiarly suited to the amateur cultivator, as it simplifies and renders easy one of the most troublesome points in his practice.

Hortulanus.

ON FORCING FLOWERS.

Being of opinion that a seasonal hint is of more value in a practical sense than the most elaborately written treatise presented at an ill-timed period, we offer the following remarks on flower-forcing, not as containing any new doctrine, or as a learned disquisition on cause and effect, but that the beginner, and those who delight in giving personal attention to their favourites, but who are not professionally engaged in the pursuit, may have some guide to their operations, and a timely knowledge (if only a primary one) of the principles on which they are or should be working.

Perhaps the most correct idea of these principles would be gained from a close observance of Nature's laws, and the position of the plant in its original or wild state; for if possessed of a knowledge of the natural habits of his plants, their precocity or tardiness to flower, their stations, and an acquaintance with the average temperature of their native localities at the period of blooming, the culturist would be enabled to estimate, with great exactitude, the quantity of stimulative power necessary to the production of flowers at a given season, by increasing the artificial temperature above the natural one, in a corresponding ratio with the required and natural periods of blooming. Still all this information is not easily obtainable, and if it was, would be rather cumbrous in practice; therefore it is that certain rules deduced from the experience of many are usually employed without reference to other matters, that perhaps from being misplaced, or not rightly understood, would lead the tyro to an erroneous conclusion.

The forcing of flowers, in the correct acceptance of the term, is the production of blossoms at a season quite distinct from that in which the plants would bring them forth if left to natural influences, and in the successful working requires, first, a full and decided maturity of all the various organs of the plant: this infers a previous developement at least perfectly healthy, if not luxuriant; for it will be found that the beauty of the forced flowers depends very much on the growth of the foregoing season, and will be rich or meagre, all other circumstances being the same, in an exact proportion to its vigour. Secondly, the plants to be operated on should be thoroughly established before their introduction to an elevated atmosphere, that they may have acquired the means of immediately supplying the necessary aliment to meet the demands of an increased circulation, and accession of new parts; there is a great difference, even in the limited number of plants that are usually subject to this treatment, in the time required to effect a perfect re-establishment; some of them may be obtained in a proper state in a few weeks, while others will not bear to be forced until they have received a year's preparation. The first class consists of bulbous-rooted and herbaceous plants, which form an entirely new set of organs in each season, and the latter includes Roses, Rhododendrons, and other hard-wooded plants that have a more persistent system; these are absolute in requiring to be potted at least six months, so as to allow them to form a season's roots before being forced.

The next essential point of management lies in the manner of applying the necessary heat, and on it the success of the whole may be said to hinge; for whatever care or skill may have been expended, any misapplication here will render it all void. The increase should be brought about in a gradual manner, so as to resemble as nearly as possible the advances of spring, whose functions it is intended to anticipate; the absurd practice, so prevalent a few years since, of removing a plant from the open air in the depth of winter to a temperature of some 55° or 60°, and of which some traces even yet remain, must appear preposterous when we consider the object sought by the change. Was ever so great a difference known to occur in a day and a night at any part of the year, or any portion of the world? This, or whatever else is so violently opposed to nature's laws, must be erroneous in practice. The temperature above mentioned (55° or 60°) is that in which most plants will expand their flowers; and to reach it from the average temperature of our winters, at least two intermediate stages are necessary: the first, of about 35°, is usually afforded by a cold frame, and the next, of 45°, or greenhouse temperature. After a suitable stay in each of these climates, which will vary with the nature of the plants, say, for the soft-wooded or herbaceous class, ten days or a fortnight, and for the others a little longer, they may be safely introduced to the highest temperature. In the ordinary and proper developement of the organs of a plant, the action commences with the roots, and proceeds gradually upwards, as displayed in the bursting of the leaf, the formation and expanding of the flower-bud, and, finally, the perfection of the seed. This is the natural course of the vital energy; but when the plant is placed at once into a comparatively high temperature, the action commences in the stem or above the roots, an abortive production of leaves or flower-buds is made, which, from the inaction of the roots and consequent want of food, after lingering for a time, necessarily wither and die. Hence the propriety of a gradual application of heat, that the excitement may begin at the proper place and be continuously increased until it reaches the perfecting point.

The only other matter of consequence connected with the subject relates to the proper supply of water. This, as part of the stimulative system adopted in forcing, should be subject to the same rules which regulate the supply of heat; it should be given in the same limited manner at first, and increased with the increase of temperature resulting in a full supply every day at the period of blooming. It is only necessary to add, that a considerable diminution of both heat and moisture will be required immediately after the expansion of the flowers, in order to prolong their existence, and preserve their brilliancy; this is easily effected by the usual plan of removing them to a cooler place, where their loveliness will be more enjoyable than in the close humid atmosphere of a forcing-house.

Ed.

DISEASE IN DAHLIAS.

Have you received intimation of the presence of a disease, similar to that of the potato, in the roots of the dahlia this season? I was induced to examine mine about a month since, from the circumstance of a stem dying off here and there, and occasionally an entire plant, and found then that several of the tubers were infested with a gangrenous disease; and on a recent examination I perceive it has, in too many instances, extended throughout the whole root: do you believe it to be prevalent? and what remedy would you propose?

I have for several years past preserved my dahlias through the winter in a clamp, in the same manner that potatoes are kept, and have found them to do exceedingly well. Do you think it advisable to continue this plan with them in their present state; or shall I adopt some other method? In short, please to advise what course I had better pursue, for I am in sore tribulation.

SURREYENSIS.

[We had not heard before, that the Dahlia has exhibited symptoms of an attack from the disease unfortunately so very general in the potato crop, but the above communication fills us with apprehensions; though from the excellent condition of the blooms we have seen this season from nearly all parts of the kingdom, we are disposed to hope it is only partial. The best remedial course will be to take up the root at once, cut all the infected portions clean out, and dust the cut parts over with quicklime, and afterwards pack them away in pounded charcoal. The great object will be to preserve them as dry as possible through the winter, and for this purpose a clamp will be unsuitable: we should prefer a dry closet, or the best part of a good shed, if the collection is large.]

GLOSSARY OF TERMS USED IN BOTANICAL DESCRIPTIONS.

(*Continued from* p. 227.)

CIRRHIFEROUS, CIRRHOUS.	Furnished with tendrils.
CIRRHOSUS.	Curled like, or assuming the functions of a tendril.
CIRRHUS.	A tendril, an organ proceeding sometimes from the stem and branches, and occasionally from the apex of the leaves, and possessing a spiral spring-like power, by which the plant is enabled to cling to surrounding objects, and support itself.
CITREUS, CITRINUS.	Lemon colour.
CLASS.	One of the first great divisions of plants in botanical arrangement. In the Linnæan system they are 24; but in the natural system, now of universal adoption, the number is reduced to 2.
CLATHRATE.	Applied to the veins in the foliated parts of

plants, where they are disposed in the manner of lattice-work.

CLAVATE. Club-shaped.

CLAVELLOSE. Covered with or made up of club-like protuberances.

CLAW. The lengthened base of a petal, by which it is connected with the receptacle.

CLINANDRIUM. A depression of the column of Orchidaceous plants, in which the anther lies.

CLINANTHIUM. The dry woody receptacle of composite flowers, to which the base of the florets is attached.

CLYPEATE. Buckler-shaped.

COACERVATE. Growing together, clustered.

COADNATE, COALESCENS. Joined, coherent.

COATED. Having a distinct external layer harder than the internal, as the rind of fruit, &c.

COB-WEBBED. Covered with a soft, thin, white pubescens, like a cob-web.

COCCINEUS. Scarlet; this term is frequently used in far too lax a manner, being erroneously employed to designate nearly every shade between orange and crimson.

COCHLEATE. In general acceptation shell-shaped, though strictly the form should be the spiral one of the snail shell.

CODIOPHYLLUS. Having leaves covered with short woolly hairs.

COHERING. Expressive of an union of similar parts, as where the petals of a flower are joined so as to form a tube.

COLLUM. The neck, synonyme for Cingulum.

COLUMELLA. A central axis, round which the carpels of some fruits, and the thecæ of mosses, are arranged.

COMA. The aggregation of parts which form the head of a plant; also tufts of hairs on certain seeds, and sometimes applied to roots which have numerous hair-like ramifications.

COMMINUTED. Crushed, pulverised.

COMOSE. Descriptive of the tuft of sterile bracteæ on the summit of the inflorescence of certain plants, as the Hyacinthus comosus, &c.

COMPACTUS. Pressed together, close.

Complicate, Complexivus.	Entirely folded over another.
Complicate-carinate.	Folded together so as to form a keel.
Compound.	Expressive of the union of several similar parts, so as to form a distinct whole; thus, a compound leaf is formed by the combination of several leaflets, and a compound umbel by several simple umbels.
Compressus, Compressed.	Flattened or pressed together.
Concave.	Hollow, without angles.
Concentric.	Lines proceeding at equal distances round a common centre.
Concrete.	Hardened into an entire mass.
Conduplicate.	Folded longitudinally and closely together.
Cone.	A compound fruit, formed by the regular arrangement of scale-like carpels round an axis.
Confertus.	Densely crowded.
Conferruminate.	So closely united as to be undistinguishable.
Confluent.	Sticking or run together.
Conformis.	Assimilated; a resemblance between two parts.
Congestus.	Applied to leaves when folded up without regularity, and to the inflorescence when collected into a spherical head.
Conglobate.	An aggregation of florets into a spherical form.
Conglomeratus.	Collected together, clustered.
Conical.	Resembling a cone, or assuming the figure of a true cone.
Conjugate.	A pair of leaves joined together in the manner of a pinnate leaf.
Connate.	When the base of two opposite leaves completely encircle the stem.
Connivent.	Approaching together.
Conoid.	Rising from a circular base to a point, like a cone.
Conservative Organs.	The alimentary organs of a plant, as the root, stem, and leaves.

LIST OF NEW PLANTS.

AMARYLLIDACEÆ. — *Hexandria Monogynia.*

Habranthus concolor. Zephyranths and Habranths are plants so nearly related to each other, that some care is necessary in distinguishing them. The main difference is found in the interior of the flower, where the Habranths have, on the outside of the stamens, a small cup, composed of a membrane, or of certain toothings or scales, which are deficient in the Zephyranths, or at least hardly discoverable. In habit the one-flowered Habranths are the same as the Zephyranths.

In the present species, the cup consists of a membraneous ring, cut into irregular toothings or lacerations, and here and there slit down to the base. The flowers, although pale green, are very pretty, and form a lively ornament of the greenhouse or cold frame, in the early spring. Mr. Hartweg found it in pastures near the city of Leon in Mexico, whence he sent its bulbs to the Horticultural Society, in whose gardens it flowered in April last. — *Bot. Reg.* 54—45.

BERBERIDACEÆ. — *Gynandria Monandria.*

Berberis actinacantha syn. *Mahonia Knightii.* An evergreen bush apparently common in the neighbourhood of Valparaiso, whence it has been brought by all collectors of Chilian plants. It is not, however, a plant of the coast, but inhabits the first range of the Cordilleras. It derives its name from the broad ray-like divisions of the spines, which, though variable, are often very remarkable; the leaves too vary in form from roundish ovate to ovate and even subcordate; they always have a hard, dry, curled appearance, as if the species were accustomed to a rigorous climate; its deep yellow, sweet-scented flowers render it rather a conspicuous object of the smaller sort, and it is quite hardy. — *Bot. Reg.* 55—45.

MONIMIACEÆ. — *Gynandria Monandria.*

Boldoa fragrans. This is a small tree or bush with a highly aromatic odour in every part. It has round, grey, slightly downy branches and roundish ovate evergreen opposite leaves placed on short stalks, and studded with hard points, which give them a very rough surface. The flowers are diœcious, pale greenish white, in little terminal panicles, each branch of which is rather regularly three parted. In this country the male only is known. Of that sex the calyx is a leathery cup divided at the edge into an uncertain number of strap-shaped segments placed in two or three rows; all the inside of the cup is lined with stamens, whose filament bears at its base a pair of ear-shaped glands, terminated by a half transparent rim. In Chili the plant is much valued; its wood forms a charcoal preferred by smiths to all others, and the aromatic fruit is eaten by the natives. With us it is a greenhouse shrub, which requires to be potted in sandy loam and peat in equal proportions, and in summer an ample supply of water is necessary, and shading in sunny weather, for although it be a hardy-looking shrub, its leaves are very apt to become scorched by the sun.—*Bot. Reg.* 57—45.

SPIRÆACEÆ. — *Icosandria Di-Pentagynia.*

Spiræa Douglasii. An extremely beautiful species producing dense, compound, terminal racemes of rosy-lilac flowers, very numerously and upon very small plants. It was first discovered by the lamented and indefatigable Douglas in his explorations of the north-west coast of America, about the

Columbia and the Straits of Tuca; but it was not introduced to this country by him. Within the last five years a few plants were reared in the Glasgow Botanic Garden, from seeds sent to the curator, Mr. S. Murray, by Dr. Tolmie, who gathered them at Fort Vancouver; blossoms were produced by these plants for the first time about two years ago, and it has lately been flowered by Messrs. Low & Co., of Clapton Nursery. The plant is quite hardy. — *Pax. Mag. Bot.*

CINCHONACEÆ. — *Pentandria Monogynia.*

Mussænda macrophylla. An upright spreading shrub, of a noble aspect; the branches amply adorned with a most luxuriant foliage, and terminating in fine corymbs of orange blossoms, which have an increasedly rich appearance from the three broad almost snow-white floral leaves that stand around them. In its native country, according to Dr. Wallich, it sometimes acquires a tendency to ramble, when growing in places where the roots spread amongst an over rich soil, and it is not unlikely that plants under cultivation in our stoves might do the same, if subjected to a close, much-heated atmosphere. At the Exotic Nursery, Chelsea, it forms a bush about 3 feet high, of the most perfect symmetry. It was found by Dr. Wallich's collectors on the mountains of Chundragiri and Majarjoon in Nepal.— *Pax. Mag. Bot.*

RUBIACEÆ. — *Pentandria Monogynia.*

Exostemma longiflorum. A curious, low, stove-shrub, about a foot and a half high with lanceolate leaves and singular white flowers, the tube of which is very slender, and about 6 inches in length, cylindrical, slightly widening upwards, and suddenly expanding into the five segments of the limb, which are one third as long as the tube, very narrow, and completely reflexed when thoroughly expanded; Lambert gives Guiana as the native country of the species; while De Candolle, on the authority of Richard, says it is indigenous to St. Domingo.—*Bot. Mag.* 4186.

PASSIFLOREÆ. — *Monadelphia Pentandria.*

Tacsonia mollissima. A beautiful greenhouse or conservatory climber with large rose-coloured flowers somewhat like those of the passion-flower. It is a native of the elevated districts of New Grenada, growing at a height 9000 or 10,000 feet above the level of the sea. Humboldt found it about Santa Fè de Bogota, and Mr. W. Lobb in woods near Quito; from his seeds Messrs. Veitch have raised plants which have bloomed throughout the past autumn. — *Bot. Mag.* 4187.

LEGUMINOSÆ. — *Monadelphia Polyandria.*

Calliandra Tweediei. An elegant shrub belonging to a genus of *Mimoseæ* distinguished by the great length, and frequently rich red colour, of the stamens. Sixty species are enumerated by Mr. Bentham in the London Journal of Botany, all inhabitants of the American continent. They have, Mr. Bentham observes, the corolla of *Albizzia*, the stamens of an *Inga*, and a pod different from that of any other genus, the valves of the pod rolling back elastically in a very remarkable manner. The present species is a native of Rio Grande and Rio Jaqury in South Brazil, where it was found by the indefatigable botanist whose name it bears. It requires the heat of a stove, where it produces its lovely crimson flowers in a copious manner. — *Bot. Mag.* 4188.

SCROPHULARINEÆ. — *Didynamia Angiospermia.*

Franciscea acuminata. A handsome Brazilian shrub presented by Mr. Low of Clapton to the Royal Gardens of Kew, where it flowers in the stove during the months of June and July. It was received under the name of

F. Pohliana, probably a mere garden name, which ought not to be retained, for it is assuredly the *F. acuminata* of Pohl. It is a very desirable hothouse plant, wanting indeed the delicious scent of *F. Hopeana*, and the handsome foliage of *F. hydrangeæformis*, but nearly equal to the latter and superior to the former in the flowers. Mr. Bentham has united this genus and *Brunsfelsia* in the descriptions of *Scrophularineæ* for the forthcoming volume of De Candolle's Prodromus. — *Bot. Mag.* 4189.

ORCHIDACEÆ. — *Gynandria Monandria.*

Odontoglossum Cervantesii. A lovely species, with small ovate angular pseudo-bulbs, and solitary oblong leaves, producing a 4-5 flowered scape of beautiful medium-sized blossoms, the ground colour of which is a delicate pale rose, the sepals and petals being marked with several concentric broken rings of dark brown, the lip is sub-cordately ovate and acute (as also are the petals), and is devoid of the band-like markings which distinguish the other portions of the flower. A specimen which Messrs. Loddiges received from Oaxaca flowered last March. — *Pax. Mag. Bot.*

Schomburgkia undulata. This plant was found by that indefatigable traveller Mr. Linden in December, 1842, in New Grenada, at the height of 2400 feet above the sea, on the rocks near Pandi, a place which in his herbarium he calls "the natural bridge of Icononzo;" the wild specimens having about 20 flowers in a head. Their colour, a rich chocolate-red, alone distinguishes them from both S. crispa and marginata, and the form of the lip from S. tibicinis. — *Bot. Reg.* 53—45.

Gongora truncata. Whatever opinion may be entertained respecting the specific distinction of other Gongoras, no one can doubt that this at least is very different from all that have been previously discovered. It is a Mexican species, introduced by Mr. Rucker, who received it from Mr. Linden, in 1840. We do not find any thing peculiar in the pseudo-bulbs or foliage; the characters of the species reside exclusively in the flowers, which are pale straw-colour with some brownish purple freckles and a yellower lip. Before expansion they are almost of the form of a bean, which is owing to their sepals being so blunt that when flattened they are nearly half oblong. The lip has no speckles at all and looks as if varnished; it is entirely pale yellow. — *Bot. Reg.* 56—45.

FLORAL INTELLIGENCE.

Royal South London Floricultural Society.

The 17th of August was the day appointed for the last exhibition for the season of this Society, and a more unfavourable one could not have occurred, a pitiless drizzle falling nearly the whole of the day, and only equalled in its uncomfortable consequences by that which fell on the occasion of the previous July meeting; indeed, the weather through the entire season has been most unpropitious to the South London shows, not one of the days appointed having proved at all serene, or such as visitors could venture out in, yet, notwithstanding these continued adverse circumstances, there has been a manifest advance in the quality and number of the subjects present; several new members have contributed a good deal to this improvement, and the society is again progressing to a useful position. This we are heartily glad of, for it occupies a place that ought to be well filled, being, as it were, a nursery to the other great metropolitan exhibitions.

On this occasion, those splendid autumnal flowers, the Dahlias, were very numerous and in excellent condition; every exhibitor of them certainly deserved to have received a prize, when we consider the dreadful season growers have had to contend with, and the beautiful manner in which they were produced. In the Amateur's class, the Gold Medal for the best 24 blooms was awarded to Mr. J. S. Proctor, sen., for Pickwick, Antagonist, Perpetual Grand, Nonpareil, Queen of Roses, Beauty of Sussex, Consolation, Indispensable, Favourite, Mrs. Shelley, Vivid, Standard, Beeswing, Unique, Raphael, Lady St. Maur, Essex Triumph, Victory of Sussex, Lord Howden, Competitor, Eclipse, Blue Bonnet, and Admiral Stopford. The Large Victoria Medal was given to Mr. Cook for the 2nd, the Large Linnæan to Mr. Trentfield for the 3rd, the Small Victoria to Mr. Legg for the 4th, and the Small Linnæan to Mr. Edwards for the 5th.

For the best 12 blooms, the Large Victoria was awarded to Mr. Collison of Bath; they were Lady St. Maur, Eximia, Aurata, Nonpareil, Princess Royal, Blue Bonnet, Victory of Sussex, Essex Champion, Northern Beauty, Gloria Mundi, Cleopatra, and Beeswing. The Large Linnæan was obtained by Mr. Cousin for the 2nd, the Small Victoria by Mr. Wicks for the 3rd, the Small Linnæan by Mr. Hatchman for the 4th, and Mr. Wildman, Mr. Golding, Mr. Pipe, and Mr. Proctor, had each Small Minerva medals awarded them.

In the Nurseryman's Class the flowers were very good. The Gold Medal was awarded to Mr. C. Turner for the following 24, Victory of Sussex, Perpetual Grande, Princess Royal, Alice Hawthorn, Competitor, Beeswing, Indispensable, Admiral Stopford, Beauty of the Plain, Springfield Rival, Aurata, Gloria Mundi, Cleopatra, President, Standard of Perfection, Raphael, Ophir, Essex Triumph, Bermondsey Rival, Mrs. Shelley, Nonpareil, Pickwick, and Mrs. J. Richardson. The Large Victoria was taken by Mr. Widnall for the 2nd, the Large Linnæan by Mr. Brown for the 3rd, and the Small Victoria by Mr. Girling for the 3rd.

The extra prize offered by Mr. Cook for two blooms of his Albion was taken by Mr. Bushell.

The seedlings were numerous, and most of them very good. We must congratulate Mr. Keynes on the possession of such a magnificent flower as that he exhibited as a seedling of 1844, called Sir Edmund Antrobus; it is perfect, of large size, exquisite shape, and bright pleasing crimson-red colour, it was deservedly awarded a first-class certificate; Gaines's Princess Radzivill, a light rose, tipped; Girling's Queen of Perpetuals, pink; Trentfield's Lady Stopford, crimson-red; Prometheus, rosy purple, and Newington Rival, dark purple, from Messrs. F. & A. Smith, all received first-class certificates. There were many others; among the most remarkable we noticed a very promising white, the Marchioness of Cornwallis, from Mr. Walls of Hungerford; Mrs. Caudle, a dull orange, and Miss Prettyman, white with purple tips, from Mr. Turner of Chalvey, and Spary's Marquis of Ailesbury, a peculiar purple tint.

Besides these, Messrs. Collison, Bushell, and Brown received certificates for seedlings of 1845. There was also a tolerable gathering of plants, though the effects of the late period of the season and dull weather were apparent in several. Mr. Bruce received the principal prize, *5l.*, for the best 18; among them were nice plants of Epiphyllum speciosum, Gardoquia Hookerii, Erica Aitonii, Crinum amabile, Euphorbium splendens, Manettia bicolor, &c.: the Gold Medal was obtained by Mr. Young for a similar number; among his plants was a very excellent Erica ampullacea vittata. The Large Victoria Medal was given to Mr. Doran for the best 12, and the Large Linnæan to Mr. Hamp for the 2nd ditto. In the Nurserymen's Class, the first prize, Large Victoria Medal, was taken by Mr. Pamplin with a collection containing very neat plants of Achimenes longiflora, A. grandiflora, A. multiflora, Clerodendron squamatum, Erica Irbyana, &c.

For single specimens Mr. Dawson obtained the Large Victoria, for a splendid plant of Erica Irbyana, Mr. Bruce the Small Linnæan for Witsenia corymbosa, Mr. Cuthill the Small Minerva for an excellent specimen of Lisianthus Russellianus. Extra prizes were also given to Mr. Mannock, gardener to C. Pritchard, Esq., of Clapham, for a nice little plant of Lilium speciosum, and to Mr. Pamplin for an excellent plant of Gardoquia Hookerii. A new Melastomaceous plant was exhibited by Mr. Mannock, with ample ovate leaves and large rosy lilac flowers, which apparently will be produced rather numerously.

The prizes for Fuchsias were awarded to Messrs. Corbin, Robinson, Gaines, and Jennings; we did not observe anything particularly new or striking among them; a seedling from Mr. Jennings, called British Queen, obtained a first-class certificate; it is a large flower, with pale rose-coloured tube and sepals and bright red corolla.

The Roses were numerous, and in beautiful condition; the prizes were awarded respectively to Messrs. Lane, Paul, and Francis. A great number of cut flowers were also present; the awards were, 1st, Mr. Bruce; 2nd, Mr. Parsons; 3rd, Mr. Garty; and 4th, Mr. Robinson; and in the Nurserymen's division of the class, 1st, Mr. Henbrey; 2nd, Mr. Pamplin. The extra prizes offered by Mr. Seldon for 24 Verbenas were taken by Mr. Smith and Mr. Henbrey; and that offered by Mr. Dutton for a floral device, also by Mr. Henbrey, though we confess our inability to discover the merit of the production.

Other extra prizes were given by the Society to Mr. Cuthill for a beautiful collection of Lisianthus Russellianus, Mr. Agate for Asters, Mr. Hall for Pansies, and to Mr. Conolly for Cockscombs.

NOTTINGHAM FLORAL AND HORTICULTURAL SOCIETY.

EXCHANGE ROOMS, NOTTINGHAM, JULY 30, 1845.

Best pan of nine blooms of Carnations: Martin's Splendid, Lord Milton, Defiance, Seedling, Lady Ely, Derby Willow, Confederate, Nehemiah, and Nulli Secundus; Mr. Pickering. Second ditto: Hufton's Patriarch, Seedling, Earl of Leicester, Wilson's Harriet, Lord Byron, Robinson's Duke, Seedling, Nulli Secundus, and Vespasian; Mr. J. Taylor. Third ditto: Leader, Count Pauline, Grand Sultan, Mango, Lady Ely, Ely's Favourite, Prince Albert, Sir Robert Peel, and Mrs. Bevan; Mr. Staton. Fourth ditto: William Caxton, Sir Robert Peel, Lydia, Beauty of Woodhouse, Crucifix, Buonaparte, Mrs. Morner, Monarch, and Prince Albert, Mr. Pearson.

Best ten Picotees:—Marc Antony, Gidden's Teazer, Wood's Victoria, Cleopatra, Trip to Cambridge, Wilmer's Elizabeth, Nulli Secundus, John's Prince Albert, Fanny Irby, and Gidden's Diana; Mr. J. Gibbons. Second ditto: Ely's Favourite, Field Marshal, Crook's Albert, Ely's Mrs. Lily, Sir R. Peel, Gidden's Teazer, Mrs. Bosville, and Dickson's Trip to Cambridge; Mr. Staton. Third ditto: Robinson's Duke, Mrs. Horner, Sharp's Gem, Sharp's Duke, Nulli Secundus, Lady St. John, John's Prince Albert, Gidden's Vespasian, Miss Ellen, and Ada; Mr. S. Buswell.

Heavy red-edged Picotee (Duke of Wellington), Mr. Moore; second ditto (Derby Willow), Mr. Pickering; third ditto (Robinson's Duke), Mr. Taylor. Light red ditto (Queen During), Mr. Hirst; second ditto (Mrs. Horner), Mr. S. Buswell; third ditto (Sir Robert Peel), Mr. Robinson. Heavy purple ditto (Nehemiah), Mr. Pickering; second ditto (Trip to Cambridge), Mr. Gibbons; third ditto (Crask's Queen Victoria), Mr. J. Robinson. Light purple ditto (Ely's Favourite), Mr. Robinson; second ditto (John's Prince Albert), Mr. J. Robinson; third ditto (Pickering's Harriet), Mr. Pickering. Heavy rose (King of Roses), Mr. Staton; second ditto (ditto), Mr. Hirst; third ditto (Pedestrian), Mr. J. Robinson. Light rose (Wain's Victoria), Mr. Pickering. Best collection, Mr. Pickering; second ditto, Mr. Staton. Best device, Mr. Hirst. The show of Roses and Miscellaneous Plants was both numerous and good: want of space alone prevents their insertion.

CALENDAR FOR NOVEMBER.

But few plants are to be found in perfection during the present month, if we except cryptogamic forms; these are abundant in all situations, from the sea-shore strewed with *fuci*, to the highest situations we can reach, where mosses and lichens still vegetate and fructify, cold though it be at such elevations. There are, however, a few plants approaching perfection this month, worthy of special attention from the pleasant associations which they call to mind—the Holly, the Misseltoe, and the Butcher's Broom, or Knee Holme (*Ruscus aculeatus*), which last fruits sufficiently in its native woods in Sussex to allow of its being applied to the same purposes at Christmas as the previous mentioned shrubs.

If the amateur collector has been moderately diligent, the number of specimens collected will have become troublesome to refer to if some plan has not been decided upon for their arrangement. In fact, the question arises, is the Linnæan or natural system to be followed? The first is acknowledged to be entirely artificial, nor can the other be called any thing else, for no mere *lineal* method, the only one plainly reducible to paper, can ever be otherwise: but there is this great difference in favour of the last mentioned, that it collects all the really related genera and species into close contact, instead of spreading them through several classes, or collecting the most widely separated forms into the same order. For instance, in the order *Leguminosæ* we have one of the most natural groups of plants that can be, yet, if we follow the Linnæan arrangement, we must widely separate them into two or three classes, and if we introduce exotic species, into a great many more. Examples might be quoted from almost every natural order in the British flora containing a few species, but enough has been said to prove the superiority of the natural arrangement where something more than the mere names of plants is wanted.

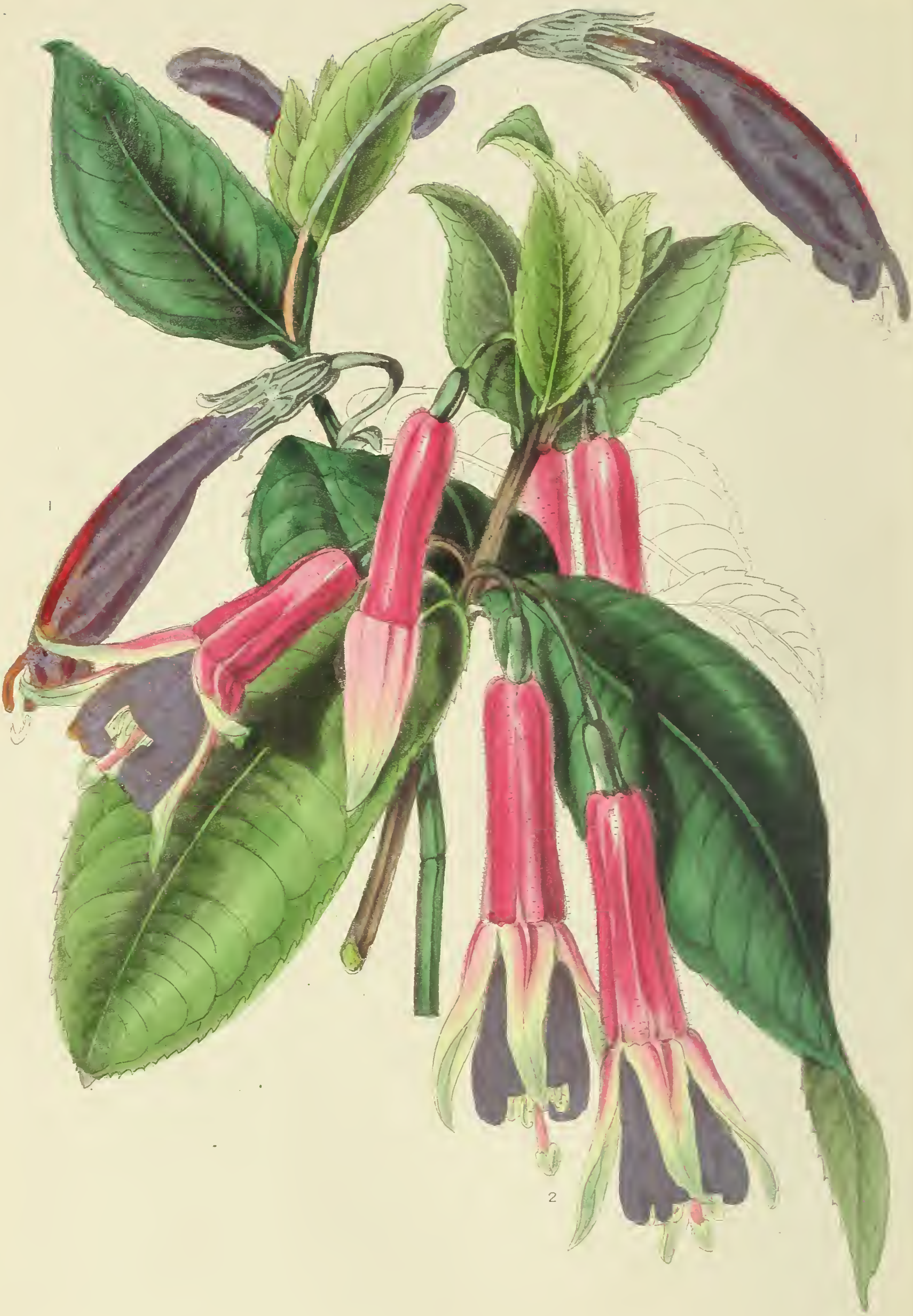
In the Flower-Garden no time should be lost in getting the beds intended for bulbs planted; not a bulb should be out of ground after the middle of the month. If we examine bulbs which have been left in the ground, we shall find the most of them pushing vigorous roots, thus plainly proving that any delay in planting would be injurious. All opportunities should be taken to sweep and roll the lawns and walks, and to keep the beds neat and clean. If any of the beds are filled with evergreens, as has been recommended, perhaps the best effect would be produced by filling only a few of the clumps with plants in pots, so arranged as to have the neatest and dwarfest near the eye, and the larger and sadder coloured sorts in the distance; a garden entirely filled would look very heavy.

Potted annuals in pits and frames must receive all the light and air possible, being careful not to over-water them, and to get the plants quite dry before closing the lights. Bulbs intended for forcing, if not already done, should be potted and buried in sawdust, or better, sifted ashes, and if placed in a frame where they can be sheltered from excessive rains the better.

The GREENHOUSE must receive all the air that the state of the external atmosphere will allow, as the plants must be kept from any premature growth. Neatness of course must be strictly attended to, and if any signs of damping off of leaves, or in fact of damp from any cause, appears, advantage must be taken of the first favourable chance, and a fire lighted for a few hours during the middle of the day, and air given at the same time to expel all signs of this worst enemy to plants in houses during our winters.

In the STOVE all should be kept as much at rest as possible, but where there are so many individuals, of such different habits and from so many different climates, some are always in a growing state. For such the warmest end of the house should be chosen, but their growth should rather be held in check than encouraged. Great attention should be paid to keeping all sorts of vermin under, especially among the Orchidaceæ, where the wood-lice will otherwise commit great havoc. A very diminutive snail is also very destructive, but may be caught in considerable numbers, along with the above, by laying slices of potatoes, hollowed underneath, on the pots, and in damp corners where they retreat during day. Of course for the destruction of insects the toad must not be forgotten in hothouses, even in winter. D. M.

FLORISTS' FLOWERS. Finish the planting of Tulips as early this month as the weather will permit, proceeding with them in the manner described in the last Calendar. Take up the Dahlia roots, and examine them closely, for fear of contagion among them; should disease be discovered, adopt the method mentioned at the end of a paper on this subject in the present Number. Tender Roses should now receive some protection, and those in pots be plunged to the rims in old tan or ashes. Auriculas, Picotees, and Carnations, must be protected from rain and very cold winds, keeping them moderately dry, with abundance of air both day and night in mild weather; attention must be given in spare time to the composts for spring, cleaning and painting sticks, labels, &c. P.



1 SIPHOCAMPYLUS COCCINEUS.__2 FUCHSIA SERRATIFOLIA

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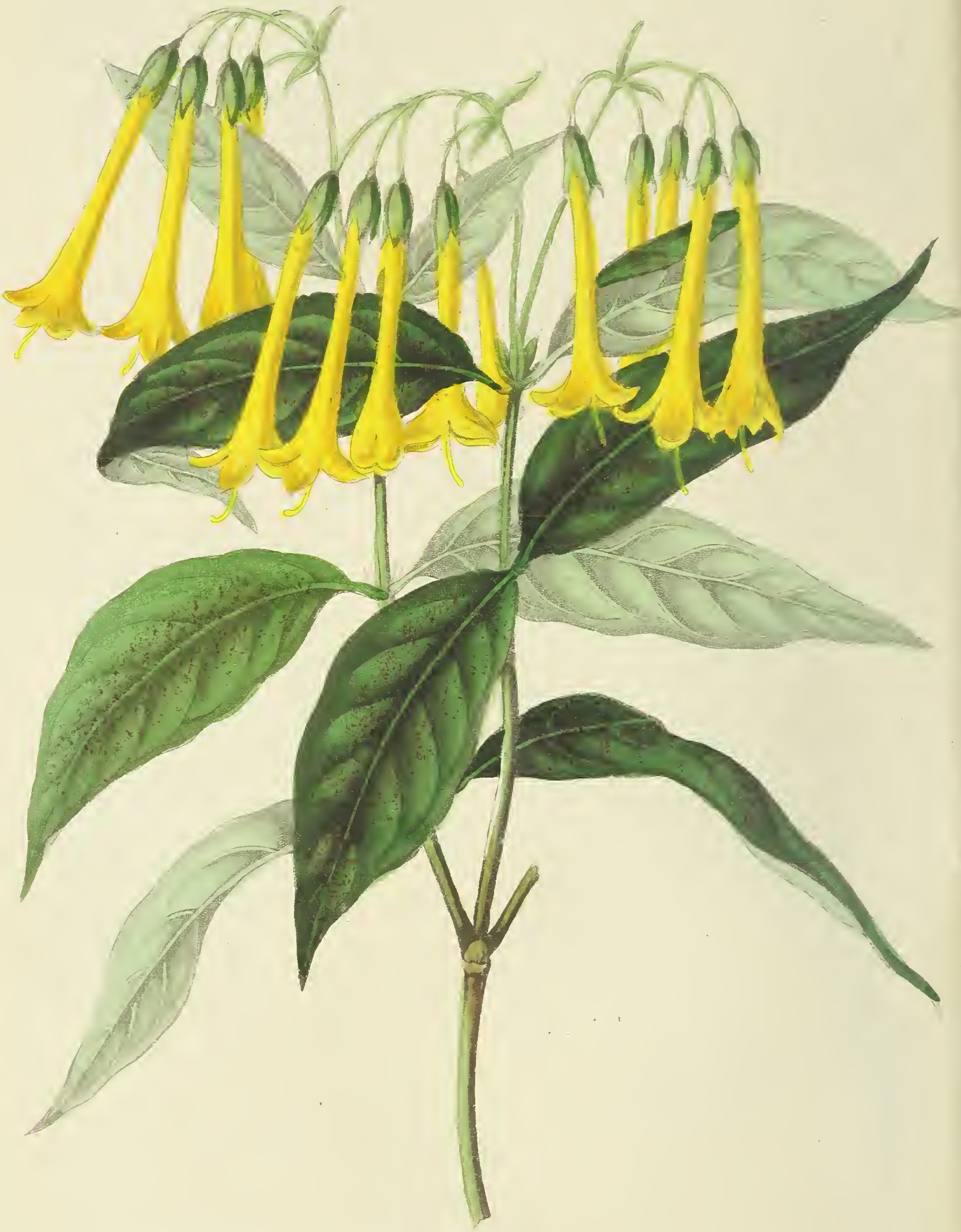
PLATE 91



BOUVARDIA FLAVA

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THE

FLORIST'S JOURNAL.

December, 1845.

SIPHOCAMPYLOS COCCINEUS AND FUCHSIA SERRATIFOLIA.

WITH AN ILLUSTRATION.

Our first plate this month represents portions of two plants, which attracted a very great share of attention at the metropolitan exhibitions of the past season.

No. 1. *Siphocampylos coccineus.* — For the possession of this plant we are indebted to the persevering efforts of that indefatigable collector, Mr. W. Lobb, who found it in shady places on the banks of the river Chagres, in New Grenada, and it was raised and flowered by Messrs. Veitch, the eminent nurserymen of Exeter. It is a plant of great beauty, its brilliant scarlet flowers appearing in bold relief above the pleasing bright green leaves; they are produced towards the points of the new shoots, and hence a hint in its culture which also applies to the whole genus, for all the species possess something of this character: in consequence, they require to have their shoots frequently "stopped" by pinching off the terminal bud in the early part of the growing season; this, if repeated three or four times, will induce them to form dwarf bushy plants, which cannot fail to produce a profusion of flowers. All the species of Syphocampylos are greenhouse plants of the class which bear exposure through the summer months with decided advantage. They also delight in abundance of root-room, and as they grow rapidly, if allowed large pots, speedily form handsome objects: occasional supplies of liquid manure will also accelerate and improve the developement of their shoots, and if attention is given them in the growing season, the flowers are certain to be copiously displayed. In the autumn the plants should be cut closely into the old wood, so as to keep them dwarf; and further, they should be retained in a dormant state through the winter among other plants of similar character, which usually find protection in pits, until the return of spring, when they burst forth with renewed energy.

They form suitable and very pretty objects, if kept close and bushy, for planting in large beds; or they may be trained to cover a trellis or wall. In either position they are effective summer ornaments.

No. 2. *Fuchsia serratifolia* is a new species, which may be grouped with *F. corymbiflora*, *F. fulgens*, and some other species of similar robust character, that are known in herbariums, though not yet, or but few of them, introduced in a living state to this country.

It was originally discovered by Ruiz and Pavon, at Muna, in Peru; and was mentioned by them in their "Flora Peruviana," along with some others, described as surpassingly beautiful, that are not yet known to us. The best of these is perhaps *F. denticulata,* found both at Cheuchiu and Huassa, in Peru, where it is significantly termed by the natives, "beautiful plant."

The present species was sent to England from Peru, along with the Syphocampylos just mentioned, by Mr. W. Lobb, who has been for some time assiduously engaged in exploring that part of the world in search of plants for Messrs. Veitch, with whom it commenced flowering in the early part of last summer. It is a tall growing plant, with ample foliage, and apparently prolific of flowers, which are brightly coloured and conspicuous. The species has been recommended by some as suited to the purposes of hybridising, our opinion is, however, decidedly opposed to this advice; its flowers are much too coarse in texture to compensate for the slight variation in colour obtainable through its means; and on the importance of securing a smooth even tube and sepals to all future seminal varieties we think there cannot be the least hesitation. We therefore say, whoever grows Fuchsia serratifolia, must grow it for itself, as it cannot be of assistance in the production of fine hybrids. This, however, does not detract from its value as an ornamental plant, for it is well deserving a place in every collection of which Fuchsias form a part.

EDITOR.

MANAGEMENT OF THE AURICULA IN WINTER.

An error of much consequence frequently creeps into the calendarial directions usually given for the management of the Auricula in the winter, which occurs through the use of general terms, and perhaps a too liberal interpretation of them. It is this: most writers, in cautioning the tyro against the effects of a superabundant supply of water, advise but a very limited quantity: this term is far too indefinite for a beginner, as perhaps not two in twenty will understand it in the same proportions. It is true, a reduced, and, comparatively with the summer treatment, a very limited supply is all that is required, though the restriction need not be carried to the severe extent it too frequently is; and thinking some further explanation necessary of what is wanted, I send you a detail of my practice.

When the plants are first placed in frames, and for about a month after, I continue to water to nearly the extent of the summer supply, that the previous repotting may have its full effect on the plant. This is a point of the first consequence, and so treated, with the extra warmth of the sun (for I always select a southern aspect for wintering), they become thoroughly re-established in the pots, and form a new set of leaves, before the severe weather occurs. When this new growth is complete, which it usually is by November, the supply of water is reduced to a small quantity, applied about twice a week, just so much as will keep the soil moderately moist; and this is continued through the damp weather usual to this part of the year, until the arrival of clear frosty nights: then it is that the error of keeping the soil dry becomes apparent, for it will be found that after three or four days' freezing, it is as perfectly incapable of supporting the plants as though it had been exposed for the same period to the effects of a summer's sun. To avoid this, let me advise the Auricula grower to give a full watering whenever a favourable opportunity occurs in such weather, so that the soil may hold plenty of moisture when likely to be frozen hard. It may be said, the presence of extra water will but increase the intensity of the frost; but I can assure all who object, that the plants are sufferers to a much greater amount, when, from the dryness of the earth, the moisture of their systems is absorbed. Every one must know something of the parching influence of a continued frost; and as it is impracticable to supply them with an addition through the frozen surface of the soil; and, moreover, we can never do more than guess at the probable duration of any kind of weather, it is well to be prepared on all occasions. What I particularly wish to advance is, that Auriculas should always have an abundance of moisture in the earth about them, on the approach of frosty weather that is likely to be of continued character, every care being taken at the same time to prevent its lodgement among the leaves of the plant. FLORISTA.

REMARKS ON THE HYACINTH.

Happening to pass a good portion of last summer on the Continent, and my taste for flowers leading me very frequently into the society of those who grew them, I was enabled to glean a few particulars which may be useful; and if you wish it will communicate them as opportuunity offers.

One piece of intelligence it is essential should be known directly, as it relates to the Hyacinth and Narcissus, flowers that occupy a good deal of attention at this period of the year. The greater part of those I saw, and they were not a few, wore an unkindly appearance, denoting an imperfect growth: the flower-stems were cramped, or turning at about half their length, grew downwards, instead of the erect robust appearance one might expect to witness, when growing in what may be termed their native air. The foliage, too, of those in large beds was patchy, much of it yellow and sickly: indeed, but few gardens could boast an uniform luxuriant green among the plants: all these tokens plainly indicating that the roots would not be so fine, or likely to produce flowers equal to the average of ordinary years. The cause of it was undoubtedly the same which has occasioned so much disturbance in the vegetation of all Europe, viz. the extraordinary fluctuations of temperature experienced through the whole of the past season.

But these hints should not be lost to those at home, and therefore I am induced to trouble you, that the grower of Hyacinths may have timely notice of the necessity of some modification of his ordinary practice in forcing these flowers. One thing appears to me nearly certain, which is, that the roots will not bear to be excited in anything like a hasty manner, or many failures will be likely to occur. I should say, from my opinion of their strength, and it concurs with those expressed by several eminent growers in Holland, that the end of January should be the earliest period for their introduction to a raised temperature; and the same remark will apply to the Narcissus, for they are equally unhealthy; indeed, it was thought by some that there would be no roots of that favourite variety, Bazelman major, to send to England this year; and I find, on inquiry in London, that they are exceedingly scarce.

However, I am not about to give directions to those who may excel me in the culture of these plants; but sincerely hope this may be in time to prevent disappointment. L. G.

[There is an evident inferiority and weakness in the major part of the Hyacinths imported this season, and we would earnestly recommend, as our correspondent suggests, the very cautious and gradual application of heat in the forcing of all bulbous-rooted plants, or much disappointment will inevitably ensue. We have before mentioned the importance of this mode of treatment; but this season it is of increased consequence. — Ed.]

HINTS FOR THE FLOWER GARDEN.

When we reflect that the Flower Garden is one of the principal sources of attraction in the pleasure-ground during the Summer months, and the most prominent and chief feature in all grounds of limited extent, we cannot but feel surprise at the very prevalent neglect of some of those things most essential to its perfect appearance, which are so conspicuously observable both in the formation and management.

In the formation of flower-gardens people are too apt to be led away, by the mere contemplation of the general effect and arrangement, from bestowing the proper consideration and attention on adapting them for the objects intended to be cultivated in them; forgetting that on this depends, in a large measure, the capacity to accomplish the general design of the whole. In laying out a flower-garden, then, beyond the consideration and judgment required to preserve harmony with the general garden scene, and to render the ground most eligible for displaying its floral garnishments to the utmost advantage, it is in an equal degree essential to provide those conditions which most contribute to the health and fertility of the plants. It ought not to be expected, though it commonly is, that the gardener, who has all the evils of previous mismanagement in the construction of the flower-garden to contend with, should be able to compete, in the culture of plants, with those to whom every facility is furnished to remedy the natural defects of the situation. The question then naturally arises — what are the points to which attention is principally requisite? And, in order to answer this, we must glance at a few circumstances connected with the subject, and necessary to its elucidation. And first, by far the largest number of the plants used for the parterre at the present day are natives of a much warmer and more equable climate than we have in this country, and are correspondingly more liable to suffer injury from the sudden variations to which they are exposed in the open garden. Keeping this before us, it will be evident that the first thing to which it is necessary to direct attention is the nature of the ground, and the locality, in reference to warmth and humidity. It is well known that a wet soil is always a cold one: and on this account we should prefer (where choice is given) a gentle declivity rather than a dead level, as a site for the flower-garden, because of the greater facility which it affords for draining completely. This, however, cannot always be had; nevertheless, it is an indisputable point to secure a situation sufficiently elevated to enable water to escape readily during long-continued rains. Unless this can be done, it is useless to attempt growing even the most ordinary half-hardy border plants, as no dependence whatever can be placed on realising any success. But, supposing a situation sufficiently elevated has been selected, it is essential, also, to prevent the garden from receiving moisture from the springs in higher grounds. Such cases often exist; they are, however, easily remedied by passing a drain along the upper side to intercept the flow. Now, this is a matter of much importance, especially in a wet season, although it is one seldom looked to. Other drains may carry the water away freely, but the water in its passage robs the ground of a portion of its heat. A drain on the upper side prevents more wet from entering the soil than what falls immediately upon it; and must, therefore, assist largely in keeping up its temperature. In a clayey ground it will likewise be needful to adopt some means of ameliorating the mechanical texture of the earth, so as to render it sufficiently pervious to air and moisture to enable it to carry a healthy vegetation: sand, or the scrapings from a flint road, vegetable ashes, light loamy earth, decaying leaves, and heath soil, or the refuse from charring stacks, are amongst the best substances that can be used. To promote the utility of these preparatives in the general improvement of the soil, particular care should be employed in forming the beds severally. At least a foot of loose stones, covered with brick or lime rubbish, or other substance capable of furthering drainage, should be laid in the bottom of each bed. The advantage of this is greater than most people imagine. Nothing can be more injurious to tender plants in the open border than an accumulation of water about their roots; it produces a coldness in the soil, which, in spring especially, is so far mischievous that it frequently effects the destruction of the plant, and generally causes an inertness which it is not recovered from for some time. It is, indeed, as necessary to provide a quantity of broken porous materials to carry off superabundant water from a flower-garden, as it is to employ drainage in the bottoms of flower-pots: or, if possible, it is more so; for we may regulate the supply of water to the pots, but we cannot cover our flower-beds from rain. We are fully persuaded, too, that the borders of the flower-garden are generally made both too deep, and of richer materials than the plants demand.

The proneness of half-hardy plants to assume a redundancy of vigour in the open garden rather requires some reduction of the means by which it is engendered, than to increase stimulatives to further it.

Flowers are the main thing looked for, and we only want a sufficient growth to promote their developement, and to cover the bed with shoots and foliage. The effects of a deep soil are merely to allure the roots away from the surface, and gorge the entire system with water, which cannot be assimilated, and is hence opposed to the furtherance of a floriferous state. Some plants, as the *Tropæolum tuberosum, Nierembergia linearis,* scarlet Pelargoniums, *Lobelia gracilis,* and other small growing species, *Mesembryanthemum tricolor,* and the hardy dwarf Gentians, require but a very slight covering of soil, if a stratum of lime rubbish, charcoal, broken bricks, and similar bodies is laid beneath.

Another thing which ought to be studied is, the contrivance of screens on the most exposed sides, particularly when the situation is subject to rough winds. By recommending shelter, however, we must not be interpreted to include shade, nor yet to advise a confined situation. Few conditions can be less favourable than a close stagnant atmosphere in a low place. The only shelter necessary is merely sufficient to break the force of the strong sweeping winds, which mutilate tender things so excessively. In a moist place, in the bottom of a valley, a considerable play of air is useful in carrying off the noxious vapours and moisture, which there accumulate in the atmosphere; whilst, if the garden be situated on high or sloping ground, a screen of greater density will be essential.

To promote a healthy vegetation and abundance of bloom, a flower-garden should decidedly have an aspect lying well to the sun. Most border plants, when not confined at the root, require as much light as possible, especially as the autumn approaches. But there are some exceptions: for instance, the lovely little *Nemophilla insignis* revels in a partially shaded spot. With regard to the exposure to light, there are some particulars in the after-management of the plants in the open air which deserve attention. We allude chiefly to the usually crowded state of the shoots of many kinds during the latter months of summer, whereby the leaves are prevented from receiving their full share of solar influence; as, for example, the whole race of *Pelargonia.* If a little timely pruning, and occasional thinning out, were adopted, not only would the appearance of the bed be improved, but the quantity of the flowers would be increased, and their colour improved. Other plants, again, require stopping back, to keep them from straggling too far, and to further the developement of lateral shoots; and with others, as the Phloxes, and some species of *Salvia,* the same ends will be answered by fastening the shoots to the ground with small pegs.

It will be seen, that throughout the present article we have expressly had in view that portion of the pleasure ground especially styled the flower-garden, and devoted almost entirely to the culture of half-hardy plants in beds, each containing a single kind. Many of the points inculcated are applicable, either wholly or to a partial extent, to other departments, and some of the plants which unavoidably come under the general description here given may require some modification in the management; but these are comparatively few in number, and do not affect the general question."

[We have abridged the above from an article in "Paxton's Magazine on Botany" for last month, as it contains some really excellent practical advice, which cannot fail to be useful in the majority of ordinary flower-gardens — and the more especially as the present is the most available portion of the year for applying the hints thrown out. Nearly nine-tenths of the gardens round the metropolis are altogether without, or have but very inefficient, drainage; and in confined situations, like those we speak of, it is indeed of vital importance, not only to the welfare of the ordinary occupants of it, but to human life, and the enjoyment of it as well. — Ed.]

THE GENUS BEGONIA.

There are few ornamental stove-plants which possess greater interest, on account of their varied and sometimes noble character, together with the dense and lively inflorescence which distinguishes them—exhibited, too, at a season when the majority of Flora's train have ceased to charm, than the individuals composing this genus. They are all beautiful; and yet how seldom we find them in the stations they are so well adapted to embellish. This neglect is inexplicable: it cannot be that they are difficult of management, for their culture is of the easiest description; neither can a want of diversity, or even the charm of novelty, be advanced as a reason or excuse for this supineness. Whatever it is, must be left a matter of mere conjecture; notwithstanding, I am pretty certain all who have grown, even though it be but a few species, must duly appreciate them as very desirable winter-flowering plants.

They are chiefly natives of South America, and their habit of flowering in mid-winter renders their cultivation peculiarly devoid of trouble. The period of growth commences with them about the middle of August, when they are benefited by repotting; though, so remarkably free are they both to grow and flower, that I have known instances in which this particular has been neglected for three or four years without apparent injury to the plants: still a good-sized pot, with a mixture of turfy peat and leaf-mould, will enable them to produce vigorous shoots, and as a matter of consequence abundance of flowers. From this time up to the end of April, or sometimes to that of May, they require the temperature of an ordinary plant-stove, with rather an abundance of water, when they continue to display their lovely diœcious blossoms without intermission. The exact period of their retention in the stove must be regulated by their flowering. Just after it is over they should be removed to the greenhouse, in order to afford them the necessary rest. In this condition they merely require so much care as will prevent the soil about them becoming dry, and with a moderate pruning at the end of summer, all the art in their culture terminates. The following are a few of the best, *B. Martiana, B. coccinea, B. Dregii, B. manicata, B. heraclifolia, B. ulmifolia, B. argyrostigma, B. lucida, B. sanguinea, B. insignis, B. picta.*

Hortulanus.

GLOSSARY OF TERMS USED IN BOTANICAL DESCRIPTIONS.

(*Continued from* p. 247.)

Constricted. Contracted or drawn together in a remarkable manner.

Contiguous. Applied in botany only when two neighbouring yet distinct parts are in contact through their whole length.

Contorted. Twisted; an irregular state of an organ, as when it is folded back on itself, or when developed in an unnatural manner.

Conus. A cone.

Converging. Drawing together, as when the petals of a flower by inflexure approach each other at their summits.

Convex. Possessing a rounded surface.

Convexo-plane. Rising in a circular manner on one side, and flattened on the opposite.

Convolute. Rolled together in a longitudinal direction, so as to enclose one edge.

Coracinus. Lustrous jet black.

Coraloid. Of the colour or appeararance of coral.

Corculum. The point of germination, an embryo.

Cordate. Heart-shaped.

Coriaceous. Of a leathery consistence.

Cormus. A succulent, rounded, underground stem, frequently termed erroneously a solid bulb: the crocus root is a corm.

Corneous. Of the consistence and appearance of horn.

Corniculate Cornutus. Having processes resembling little horns.

Cornu. A horn.

Corolla. The coloured parts of an ordinary flower: strictly speaking, it is that division of a flower next above the calyx, and is composed of one or more parts, termed petals; occasionally it is entirely absent, when the calyx or even the bracts are usually found to be coloured.

Corollatus. Bearing a corolla.

Corolliferus. Supporting the corolla.

Corollula. A floret, or diminutive flower.

CORRESPONDENCE.

A. F. — The following are twenty-four species of Orchideæ that may be termed indispensable to every complete collection: —

Eastern Species.

Aerides odoratum major.
crispum.
Saccolabium guttatum.
Dendrobium densiflorum.
nobile.
moschatum.
Vanda teres.
cristata.
Roxburghii.
Phalænopsis amabile.
Phaius Wallichii.
Angræcum caudatum.

Western Species.

Stanhopea oculata.
tigrina.
insignis.
Cattleya Mossiæ.
labiata.
Skinnerii.
Odontoglossum grande.
Miltonia spectabilis.
Trichopelia tortilis.
Oncidium Lanceanum.
Lycaste Skinnerii.
Sobralia macrantha.

Generally speaking, the Western species are of easier culture, and are on the whole more beautiful.

T. Wild. — Your seedling varieties of Primula sinensis are very beautiful; the crimson one is the best we ever saw.

A Subscriber. — We think Rosy Circle the better of the two mentioned.

T. X. — We cannot discover any difference in the Chrysanthemum sent and the old variety called Minerva.

LIST OF NEW PLANTS.

Rubiaceæ. — *Tetrandria Monogynia.*

Ixora odorata. We have been much gratified by the sight of a noble specimen of this splendid and highly odoriferous shrub. The leaves vie in size and almost in firmness of texture with those of the Indian Caoutchouc tree (*Ficus elastica*), while the numerous flowers, of the most delicious odour, form a spreading panicle, a foot or more in diameter, with deep red-purple branches; each blossom 4 to 5 inches in length; the tube red below, white above; the white buds tipped with rose-colour; the spreading segments of the limb white, soon twisted, and then changing to buff. The plant, it appears, is a native of Madagascar; it was received from the continent by Messrs. Lucombe, Pince, & Co., under the incorrect name of *Ixora Brunonis.* — *Bot. Mag.* 4191.

SOLANEÆ. — *Pentandria Monogynia.*

Hebecladus biflorus. A very pretty Solanaceous plant, with graceful drooping purple and green flowers; a native of the Andes of Peru, about Tarma, Canta, Cullnay, &c. It has only recently been introduced in a living state by Mr. Veitch of Exeter, through Mr. W. Lobb. It only requires a good greenhouse, and may be easily increased by cuttings, and probably by seed. — *Bot. Mag.* 4192.

PASSIFLOREÆ. — *Polyandria Pentagynia.*

Smeathmannia lævigata. A rare and remarkable genus, consisting of upright (not climbing) shrubs, with white scentless flowers, nearly allied to *Passiflora,* first made known by Mr. Brown. The name was given by Dr. Solander, in compliment to Mr. Smeathman, an African naturalist and traveller, who detected the three species defined by Mr. Brown. This shrub constitutes a very desirable stove plant, with glossy, evergreen, almost distichous leaves, and white flowers growing downwards, and best seen on the underside of the branches. It was introduced by the Earl of Derby through Mr. Whitfield. — *Bot. Mag.* 4194.

LEGUMINOSÆ. — *Diadelphia Decandria.*

Genista (*Teline*) *Spachiana.* This is a pleasing addition to the many-flowered and sweet-scented group of Canarian *Genistæ.* It appears of diffuse habit, and the yellow flowers are borne numerously on rather loose spikes; being indigenous to the high mountains north-west of Teneriffe, it will probably prove hardy in the climate of England. — *Bot. Mag.* 4195.

GOODENOVIEÆ. — *Pentandria Monogynia.*

Scævola attenuata. A shrubby plant, a native of south-west Australia, first detected and described by Mr. Brown, possessing little beauty in its mode of growth or foliage, but in June and July bearing rather copious spikes of bright but light blue flowers, which then give it a very pretty appearance. Our plant was reared from seeds sent by Mr. Drummond from Swan River, and probably gathered to the southward of that colony, towards King George's Sound. It is cultivated in good loam, and treated as a greenhouse plant. — *Bot. Mag.* 4196.

Azalea Ludoviciæ, garden hybrid. This charming variety has been named Ludovicia by the Dean of Manchester, in compliment to his eldest daughter Louisa. It is a sister seedling to that lately figured under the name of Lætitiæ, from *Rhododendum ponticum,* by pollen of *Azalea pontica.* Nothing can be pretter than their delicately-coloured flowers. In the present instance, instead of a pale yellow or straw colour being the prevailing colour, we have a gay rosy tint superadded. — *Bot. Reg.* 60—45.

ROSACEÆ.—*Icosandria Polygynia.*

Potentilla bicolor. This pretty species is a perennial, with much the same kind of trailing habit as the old *P. nepalensis,* but it is rather more robust. In general appearance it looks like a hybrid between *P. atrosanguinea* or *nepalensis* and *insignis;* but it has certainly a wild origin. In some respects it approaches *P. insignis* itself; but its hairs are long and soft, not short and close; and its leaflets are in fives, not in threes. The appearance of the petals is most delicate and beautiful; their ground-colour is clear yellow, over which, at the base, is drawn a series of long hexagonal red meshes, which form towards the circumference of the flower other meshes of a finer and closer fabric, till at last they melt as it were into each other, and form a clear red border to each petal. The plant grows freely in any good rich garden soil, and flowers from July to September. It was raised in the garden of the Horticultural Society from seeds received from Dr. Royle, and is said to have been collected either in Cashmere or Thibet. — *Bot. Reg.* 62—45.

PLUMBAGINEÆ. — *Pentandria Pentagynia.*

Statice Fortuni. A yellow-flowered Sea-Lavender is a rarity. This, which is a very interesting species, is a perennial, and will probably prove quite hardy. Its seeds were sent from China by Mr. Fortune in 1844, and were said to have been gathered at a place called Chin Chin, " growing in sandy soil near the sea." The latter circumstance will probably enable us hereafter to cultivate it better; for Mr. Fortune's wild plants are not more than a foot high, while those which have flowered in the garden of the Horticultural Society have been twice or thrice as large, or even more. They had been too tenderly treated. This is important, because it is easy to conceive that the beauty of a plant having many small flowers depends much upon their compactness.— *Bot. Reg.* 63—45.

BIGNONIACEÆ. — *Didynamia Angiospermia.*

Jacaranda tomentosa. A very ornamental stove plant, of vigorous habit, bright green bipinnate leaves, and large handsome tubular flowers of a peculiar purple-lilac tinge. It is a native of Mexico, whence seeds were first brought by Sir Thomas Hardy, and a plant raised from them produced its flowers at Messrs. Whitby and Osborn's Nursery, in the summer of 1827.— *Pax. Mag. Bot.*

LILIACEÆ. — *Triandria Monogynia.*

Brodiæa grandiflora. A plant deserving much more attention than is usually acceded to it, probably from the circumstance of its being suffered to bloom singly, instead of in extensive and rather dense masses. An individual plant of *Brodiæa grandiflora* would certainly have a somewhat meagre appearance on a lawn, with its narrow, scarce leaves and long flower stems; but plant a number of bulbs closely in a bed, and they will form in their flowering time (July and August) a sheet of the most delicate blue. The appearance of the species might also be improved by planting some small, quick-growing creeper in the same bed, to cover the soil with green foliage. *B. grandiflora* appears to have been first introduced about the close of the last century; it was also detected by Mr. Douglas during his botanical travels in North-west America, and transmitted to the Horticultural Society in 1826. — *Pax. Mag. Bot.*

ORCHIDEÆ. — *Gynandria Monandria.*

Cattleya granulosa, var. *Russelliana.* Some fatality seems to have attended this beautiful plant in our gardens. It was sent to Sir W. Hooker, from Woburn, as a Brazilian Orchid; but we can find no evidence to show that it is a native of even the Southern hemisphere. At Syon, where it bloomed in May, 1844, it is said to have been received from Dr. Wallich in 1839, which is probably another mistake. There can be no doubt at least about its being in reality a very fine variety of the Guatemala, *C. granulosa*, and its introduction may with good reason be referred to one of Mr. Skinner's numerous importations. The colour of the sepals and petals is an olive green spotted rather sparingly with red, and the lip is white on the outside and at the apex, the interior, for about two thirds of its length from the base, being yellow thickly dotted with crimson. The large membranous wavy petals, great erect flowers, and long lip spread out at the point into a broad transverse plate, are different from the same parts, and distinguish it from the smaller resupinate flowers of *Cattleya guttata.* — *Bot. Reg.* 59—45.

Oncidium incurvum. This striking and very peculiar species was first observed in this country by George Barker, Esq., of Birmingham, from whose rich collection we were favoured with flowers in 1840. Since that period it has found its way into the possession of others, especially of Mr. Ferguson, late gardener to the Duke of Buckingham, who succeeded in growing it extremely well. It is, however, still one of the more rare species. Mr. Barker gave it the name of *incurvum*, in consequence of the petals having a great tendency to turn inwards, when the flowers first open; that tendency is, however, eventually lost, and the parts assume the position customary in the genus.

In some respects it resembles the *O. ornithorynchum*, but it bears its flowers in a long, erect, and even branched panicle, and it has neither the long rostel nor the great column-wings of that species. Its colours, moreover, are very different, for its sepals and petals are regularly and neatly banded with red, on a white ground, instead of being of one uniform rosy tint.—*Bot. Reg.* 64—45.

Lycaste fulvescens. From the rich collection of the Rev. John Clowes of Broughton Hall, Manchester, who received it, along with *L. gigantea;* and other Orchideæ, from the province of Coro in Columbia, where it was collected by Mr. Linden.

It has smaller flowers than those of *L. gigantea*, the middle lobe of the lip is beautifully fringed, and the colour is a rather pale tawny, with an orange-coloured lip, and the habit of *L. macrophylla.* — *Bot. Mag.* 4190.

ON THE GENUS BOUVARDIA.

WITH AN ILLUSTRATION.

All the species of Bouvardia hitherto known are esteemed favourites of the flower-gardener, and we believe the value of such plants as *B. triphylla*, *B. splendens*, &c., for any of the purposes of early spring or summer embellishment, cannot be excelled; but one regret existing with respect to the genus, —that there were not other varieties as beautiful. This month we have the pleasure of introducing to our readers a new species, entirely distinct from any of the previous ones, and equally ornamental, which will considerably lessen the regret spoken of. For the opportunity we are indebted to M. Louis Van Houtte, nurseryman of Ghent, who kindly sent us a drawing of the plant some time since. The habit of this new plant is, like that of the other species, somewhat lax, if left to itself, but may be easily corrected by closely pruning previous to the development of the new growth, and with only occasional "stopping," as may appear desirable, in the growing season, will not fail to form a handsome dwarf spreading bush, with a copious display of its lively yellow, gracefully pendent flowers. Its treatment, we understand, is exactly that usually pursued with *B. splendens*, when required for bedding out, and in the same situations makes an equally ornamental object: it has hitherto refused to bloom so well as could be wished under a forcing regimen, — the flowers thus produced being smaller, and the colour watery and undecided; but with abundance of air, as it would receive either in a greenhouse or the open air, the opposite may be considered the rule. It is, we believe, like the other known species, a native of Mexico and the adjacent parts of the northern division of the continent of America, and this will account for their insisting on an open airy situation.

The proper treatment of this and the other well-known species appears so intimately blended, and they are so universally included in the list of half-hardy bedding plants, that we need not do more than glance at its leading features. They are propagated by cuttings of the new wood, taken off in spring; these readily root in a bottom-heat of 65° or 70°, and grow rapidly in peat and loam, with a somewhat reduced temperature. After becoming thoroughly established in the pots, they are turned into the open ground as soon as danger from frost is past; and if planted in light rich earth, grow and flower profusely. In the autumn they are taken up and repotted, and should be kept in a cool pit, or on a light shelf in the greenhouse, with as low a temperature as is consistent with safety from frost; any excess of either heat or moisture being particularly injurious to them at this part of the year. Propagation may also be effected when a large quantity is required, by means of pieces of the rhizoma or root, which, if divided into lengths of about two inches, and potted, to receive the treatment recommended for cuttings, speedily burst into leaf, and ultimately make equally useful plants. For the flower-garden, the beds intended for them should be in a sunny position, well drained, and composed of peat, leaf-mould, and loam thoroughly broken up, and well mixed: here the rich luxuriant green of the foliage, and vivid tints of the flowers, betoken the fitness of both soil and situation. — Ed.

CULTURE OF CENTRADENIA ROSEA.

Among the many interesting plants which now ornament the stove and conservatory the Centradenia rosea stands conspicuously prominent, remarkable alike for its graceful habit, curious copper-coloured leaves, and the profusion-of flowers which cover it; forming, in the whole, a neat and lovely object, peculiarly adapted for an isolated position such as would be afforded by placing it on a pedestal, or an elevated part of the central stage: when well grown and seen apart from other plants, in the manner described, its appearance is most imposing.

The Centradenia is very readily increased by means of cuttings, which may be taken off at any time, although in preparing the cuttings it will be necessary to select those pieces which appear the firmest, as the ripened wood of the preceding season will be found to strike more freely than the succulent green shoots recently formed. The compost best suited for the cuttings is an equal mixture of peat and silver sand, mixed well together, and rubbed fine. The pots intended for the cuttings should be filled about two-thirds up, supplying the deficiency with pure sand: in this the cuttings should be inserted, and, when properly placed, a gentle watering should be given to the soil. The best method to do this is to dip the pot into a tank, or other vessel containing water, until it flows a little above the surface of the earth; the returning action of the water settles the sand firmly round the base of the cuttings, without incurring the inconvenience and risk of beating the foliage into the soil which attends the application of water by means of the syringe or water-pot. A glass should be placed over the cuttings immediately they are potted, and when finished plunge them into a gentle bottom heat, and shade them from the rays of the sun. As soon as they have taken root the glasses may be removed; and after a few days' hardening, they may be placed separately into small pots, using a mixture of well-rotted leaf-mould and peat, adding a third of sand, observing to use it in as rough a state as possible, the object being to render the mixture pervious to both air and water. A place upon a shelf near to the glass in the stove, with attention to watering, will be all that is required for them till the latter end of June, when they should be taken to the greenhouse in order to afford them a season of comparative rest. Here they form their flower-buds; and on resuming their station in the stove about November, they burst forth and continue in beauty for a long period.

After this first year's growth, it will be well to inure the plants to a cooler treatment, by placing them in the greenhouse at an earlier season than that mentioned for the recent ones, say about March, or as soon as their flowering is past. This induces a closer and more compact growth than will be obtained from the higher temperature of the stove, and occasions less trouble in their management, as it precludes the necessity of stopping the shoots, and generally less water will suffice, besides the additional advantage of inducing a more copious supply of flower-buds. Here, if the plants are allowed a good space on all sides, and have only ordinary attention, they may reasonably be expected to form large and handsome heads, which, on the return of winter, will be found to be profusely dotted with its pretty flesh-coloured blossoms; and if a number of plants have been obtained, it will be easy to insure a successional development by managing their introduction to a warmer atmosphere at intervals, the first to be taken to the stove about the middle of October, while the last will probably remain in the greenhouse altogether. The proper season for repotting mature plants is soon after the blooming season is past; and they should be allowed an abundant supply of fresh earth, as it will be found that their minute fibrous roots extend and ramify in inconceivable numbers; and the proportion of food must be equal, or the deficiency will be apparent in the stunted appearance of the leaves and branches.

Henry Roberts.

FLORAL INTELLIGENCE.

Royal Caledonian Horticultural Society.

The quarterly meeting was held on Thursday the 4th September, when a keen competition took place among the cultivators of Carnations and Picotees, Hollyhocks, and Phloxes. In Carnations each competitor exhibited six flakes and six bizarres. The silver medal was awarded to Mr. Peter Thomson, gardener to W. E. Hope Vere, Esq., Craigiehall, for Sealy's Princess Royal, Appleby's Prince of Wales, Hogg's Champion, Ely's Lovely Ann, Brooks's Flora's Garland, Mausley's Beauty of Woodhouse, Rainsford's Gameboy, Ely's Lord Milton, Mausley's Bonny Bess, Headley's Will Cobbett, Ely's Lady Ely, and Lady Gardiner. A second premium for Carnations was voted to Mr. John Young, gardener to Mrs. H. N. Ferguson, Archerfield. The Picotees made a fine display, the competitors being numerous, each producing six varieties, and a pair of each kind. The silver medal was assigned to Mr. Young, Archerfield, for Sharp's Duke of Wellington, Giddon's Teazer, Nulli Secundus, Wilson's Octavia, Ely's Field Marshal, and Ely's Mrs. Lilly. A second premium was voted to Mr. David Foulis, gardener to James Tytler, Esq., of Woodhouselee; and a third award was made to Mr. Thomson, Craigiehall. The show of Hollyhocks was very extensive and brilliant, there being seven competitors, each producing twelve sorts, and many of the flowers being of the most gorgeous description. The silver medal was voted to Mr. Alexander Foulis, gardener to Thomas Smith, Esq., Polton, for Sulphurea, Polton Beauty, Brown's Superb, and the Purple, with eight seedlings of 1844 A second premium for Hollyhocks was awarded to Mr. Foulis, Woodhouselee. The Phloxes made a good appearance, but they were more select than numerous. The silver medal was voted to Mr. Foulis, Woodhouselee, for Phlox Van Houttei, striata, omniflora, elegantissima, Pontey's superb white, and pallida rosea; and a second premium to Mr. John Downie, gardener to John Russel, Esq., Canaan Bank. On this occasion various extra articles were produced, for several of which honorary premiums were awarded. In particular, to Mr. John Purdie, Stanwell Lodge, for a magnificent plant of Lilium lancifolium speciosum, bearing upwards of thirty flowers. Mr. John Reed, gardener to Professor Syme, Mill-bank, for admirably grown plants of Achimenes longiflora and A. grandiflora, and for very large and beautiful specimens of Celosia cristata. Messrs. Carstairs, Kelly, and Company, Warriston, for a remarkably fine flowering plant of the Fuchsia named Duchess of Sutherland, and for rich collections of Carnations, Hollyhocks, and Dahlias, sent for exhibition. Mr. Alexander Forrester, gardener to Captain Falconar, Carlowrie, for a seedling hybrid Lathyrus latifolius, the white having been crossed with the pink coloured, producing blossoms prettily veined; and for Yucca flaccida in flower. Mr. John Street, gardener to Mrs. H. N. Ferguson, Biel, for a seedling Myrtle, raised from a seed of a broad-leafed myrtle ripened in the open air at Biel: a variegated seedling Mimulus. Mr. James Gibson, gardener to J. T. Murray, Esq., Eskbank, for a tray of seedling Petunias, some of the flowers being of large size and bright colours. Thanks were voted to Messrs. J. Dickson and Sons, Inverleith Nurseries, and to Messrs. Handasyde, Glen Nurseries, for rich collections of Dahlia blooms sent for exhibition only.

* * *

The Wilts Horticultural Society.

The anticipations formed from the announcement of the grand Horticultural Fête in Salisbury have been more than realised. Many years have elapsed since so splendid an assemblage of rank, fashion, and beauty of Wilts and the adjoining counties has been witnessed, as that which on Tuesday, September 16, thronged the gardens of Colonel Baker, which, exceedingly beautiful as they are at all times, never bore a more attractive appearance than on this occasion, when they were crowded by an elegant company, who appeared fully to appreciate the efforts that had been made to minister to their recreation both by Colonel Baker, who, with much kindness, had placed his grounds at the disposal of the Society, and by the committee to whom the management of the *fête* had been entrusted. The gateway was elegantly decorated with antique carving and tapestry, supplied gratuitously by Mr. Thomas Keyness, cabinet-maker, of Salisbury. On entering the gardens, the first and most prominent object that arrested attention was a noble Agave americana, or American Aloe, just coming into bloom, which had been sent for the occasion by the Rev. E. Duke, of Lake House: this was, and with justice, a highly-attractive object, and was greatly admired. The show of flowers, the season of the year considered, was superb, including many rare and costly floral beauties. Among others we noticed a charming collection of plants in the highest state of perfection, exhibited, not for competition, by Mr. Wheeler, of Warminster. Those contributed by Mr. Downie, gardener to J. Brymer, Esq., of Burgate, but not for competition, attracted much attention. The garden front of Colonel Baker's residence presented a splendid floral decoration — namely, the arms of the proprietor beautifully emblazoned, composed of dahlias, so disposed as to have the appearance of a beautiful painting on velvet. It was the work of Mr. J. Keynes, florist, assisted by Mr. W. Atkins, and had a fine effect. The grounds themselves were rich in their summer garb, and displayed fresh beauties at every turn; the ornamental waters, covered with the rarest aquatic fowl — the magnificent aviaries, rich in birds of the loveliest plumage —the gold and silver pheasants, and a multitude of other attractive objects, afforded an almost ceaseless succession of recreation and amusement.

The prizes were awarded as under: —

To Mr. Phillips, gardener to W. H. Maund, Esq., best orchideous plant, Miltonia spectabilis, and extra prize for collection of plants. Mr. Brown, gardener to the Hon. Sidney Herbert, second best orchideous plant, a fine Stanhopea tigrina; third best collection of plants; best greenhouse plant, a very good dwarf Statice Dickinsonii, second best ericas; second best fuchsias. Mr. King, gardener to G. Lawrence, Esq., Cowesfield, best stove plant, Nepenthes distillatoria, in very fine condition; best specimen ditto, a large Lisianthus Russellianus, with remarkably deep-coloured flowers. Mr. White, gardener to C. B. Wall, Esq., M. P., second best stove plant, Juanulloa parasitica, in good health; best ericas. Mr. Dodds, gardener to Colonel Baker, third best stove plant, Melastoma sanguinea; second and third best greenhouse plants, Tropœolum Lobbianum, and Veronica speciosa; best collection of plants. Mr. Macintosh, gardener to J. C. Wyndom, Esq., second best collection of plants; second best specimen plant, a beautiful Clerodendron squamatum; third ditto, Gesnera Zebrina; second best cut flowers. Mr. Herod, gardener to the Bishop of Salisbury, best fuchsias; second best China asters. Mr. Evans, gardener to Colonel Buckley, prizes for collection of plants, citron, and orchideous plant, Cattleya Harrisonia. Mr. Tomlinson, gardener to Sir Edmund Antrobus, extra prize for collection of plants.

Amateurs' Class. — W. B. Blackmore, Esq., best greenhouse plant, Agapanthus umbellatus; best French Marigolds. Mr. W. Dowding, best dahlias. J. Staples, Esq., Belmont, second best greenhouse plant; best cut flowers. Mrs. Stevens, best China asters. Mr. Holly, second best China asters. Rev. C. Fawcett, second best Marigolds; second best French ditto. W. Smith, Esq., second best cut flowers.

Open Class. — Mrs. Montgomery, best collection of plants; best cut flowers; extra prize for roses. W. Smith, Esq., second best device.

NOTTINGHAM FLORAL AND HORTICULTURAL SOCIETY.

THE fourth and last exhibition for the season of this Society was held on Wednesday, 17th September, at the Exchange Rooms in this town. Notwithstanding the very unfavourable state of the weather for a week previous to the show, with two very severe frosty nights, the display of dahlias, which always forms the chief feature of the September meeting, was most excellent as regards quality, and were decidedly the best ever exhibited in Nottingham; nay, we very much doubt if the pan of 24 blooms forwarded by the Rev. R. Sutton, to which the first prize was awarded, was ever surpassed, for we never have seen one so good; and we heard those declare the same who are in the habit of attending most of the leading exhibitions in England. The same remarks will apply to the best pan of 12 blooms, exhibited by J. H. M. Sutton, Esq. The second prize of 24 blooms was awarded to Mr. Edwards, for some very beautiful flowers. The best collection was taken by the Rev. R. Sutton, and the second by Mr. J. Spencer. These were likewise superb flowers.

The stove and greenhouse plants were, considering the lateness of the season, very good; as were the collections of Gloxinias and Achimenes, forwarded by A. Low, Esq.

Dahlias. The best 24 blooms (open to nurserymen and amateurs), for Standard of Perfection, Blanch Shelley, Mrs. Shelley, Virgil, Princess Royal, Princess Alice, Sir J. Richardson, Consolation, Essex Champion, Antagonist, Model, Lady Harland, Perpetual Grand, Lady Antrobus, Bridesmaid, Lady Baher, Countess of Pembroke, Aurantia, Prince Albert, Pickwick, Nonpareil, Admiral Stopford, Ovid, and Argo — The Rev. R. Sutton.

2d best. Admiral Stopford, Beauty of the Plain, Maria, Antagonist, Standard of Perfection, Aurantia, Mrs. Shelley, Rival Yellow, Dodd's Prince of Wales, Sir R. Sale, Perpetual Grand, Essex Triumph, Nonpareil, Lord Sandon, Virgil, Pickwick, Girling's Prince of Wales, Great Mogul, Pet Rival, King of the West, Hero of Stonehenge, Springfield Rival, Andrew Hoffer, Bridesmaid — Mr. Edwards.

The best amateurs' pan of 12 blooms. Standard, Sir J. Richardson, Consolation, Pickwick, Blanch Shelley, Prince Albert, Essex Triumph, Perpetual Grand, Argo, Admiral Stopford, Aurantia, Princess Alice — J. H. M. Sutton, Esq.

2d best. Mrs. Padley, Hero of Stonehenge, Mrs. Shelley, Admiral Stopford, Girling's Prince of Wales, Bees' Wing, Maria, Aurantia, Pet Rival, and three seedlings — Mr. Seaman.

3d ditto. Antagonist Lewisham Rival, Sir J. S. Richardson, Mrs. Shelley, Standard of Perfection, Admiral Stopford, Dodd's Prince of Wales, Queen of Roses, Perpetual Grand, Essex Triumph, Nonpareil, Pickwick — Mr. Hirst.

4th ditto. Mrs. Shelley, Pickwick, Antagonist, Essex Triumph, Hero of Stonehenge, Prince of Wales, Standard of Perfection, Admiral Stopford, Sir J. Richardson, Springfield Rival, Aurantia, Bridesmaid — Mr. J. Nevill; fine seedling, Mr. Spencer; the best collection, the Rev. R. Sutton; 2d ditto, Mr. Spencer; cut flowers, H. Smith, Esq.; 2d ditto, Mr. Hopewell; Device, Mr. Hirst; collection of Hollyhocks, Col. Wildman; ditto of Stocks, Mr. Edwards.

CALENDAR FOR DECEMBER.

As little remains to be done out of doors now in the way of collecting specimens, except by those studying cryptogamic botany, the time may be employed in arranging and mounting the specimens already secured. If the natural system be determined on, as previously recommended, a better list could hardly be followed than that of the Botanical Society of London, an arrangement that will no doubt be very generally used, as it offers so many facilities for uniformity in nomenclature, identifying species, exchanging specimens, &c. The size and quality of the paper for mounting them on will of course be a matter of individual taste; a small folio is large enough for nearly all purposes. The easiest method of securing the specimens to the paper is perhaps with small straps of any adhesive gummed paper, similar to the postage stamps, as by this means any specimen may be replaced should better ones be afterwards collected. If it be determined to permanently fix them to the paper, weak glue is perhaps the very best material for the purpose, carefully applying it to the back of the specimen, and then laying the latter on to the paper, and sufficiently pressing them until dry. By this method there is little hope of their becoming deranged, unless submitted to dampness sufficient to destroy the specimens as well as damage the glue.

In the Flower Garden care must be taken to shelter beds of bulbs, and any others requiring it, as well from too much wet as from frost. If the weather prove open, beds or plants of strong hardy perennials may be planted or divided, as they may require. Alterations in shrubberies, or clumps of shrubs, may also be attended to, and advantage taken of favourable opportunities to proceed with heavy out-door work. Unfavourable weather will afford time for arranging the plan of planting the flower-garden for the next season, settling the arrangement of colours, and taking stock so as to see what plants will most require propagation in the spring. Making tallies and sticks, cleaning pots, &c., must also be attended to, and every thing should be forwarded as much as possible.

In the Greenhouse and pits care must be taken to keep as even a temperature as possible, avoiding cold dry currents of air on the one hand, and the application of too much moisture on the other. A temperature very little above freezing is sufficient for the pits, and from that to not exceeding 45° is enough for the greenhouse. All the light possible, and, with a view to the above points, a free supply of air, must also be admitted to the plants.

The generality of stove plants must still be kept as dormant as possible, the house not ranging higher than 65°, whilst the heat may fall six or eight degrees below that at night. All stagnant water or confined air should be prevented as much as possible, and the house kept as sweet and clean as possible. If it be necessary to force hardy or other flowers in this structure, such plants should be placed in the lightest and most airy situations, and be removed to a cooler house as soon as sufficiently advanced.

D. M.

FLORISTS' FLOWERS.—The florist will now have a leisure period for two or three months. The Tulips are safe in the ground; Dahlias are stored; Picotees, Carnations, Auriculas, and Pansies, are comfortably disposed in their winter quarters, and nothing more than the ordinary routine of occasional watering and frequent airing will engage his attention. It is therefore an excellent time to provide and properly work up a good stock of soils, and attend to the preparation and condition of all other matters connected with the growing season.

P.

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